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THE general alarm excited by the burning of the Newhall House in Milwaukee, followed a few days later by a fatal fire in the Planters' Hotel in St. Louis, seems to have suggested to the New York Inspector of Buildings the propriety of ordering a new and strict examination of the hotels in that city, with a view to the rigid enforcement of the laws in regard to fire-escapes. One of the first structures examined was the Grand Central Hotel on Broadway, an old building, remodelled and enlarged some ten or twelve years ago. The house seems to have been favored for some time with the particular attention of the Fire Department, and about a year ago the Bureau of Buildings ordered extra stairways to be built at each end of the Broadway portion, the parlor windows to be cut down to the floor, and a balcony constructed outside of them, all of which was done, rather reluctantly, by the owner, who supposed that nothing more would be required of him. Unfortunately, the new inspection showed the advisability of further changes, and a fresh order was sent, expressed in the concise language of an official who means to be obeyed, and directing the owner forthwith to place some fifteen new iron balconies in specified positions on the Mercer-Street front of the building, with iron ladders, all in accordance with a printed specification accompanying the order; and in addition to this, to connect the new balconies with the halls by clearing away twenty-one intervening rooms, now used as bedrooms by the guests of the hotel. This fresh demand proved too much for the patience of the owner, who expressed his opinion concerning it to a *Tribune* reporter in vigorous language, but it is more than probable that the directions will be complied with, as Mr. Inspector Esterbrook possesses the virtue of determination in a remarkable degree, and public opinion has been sufficiently roused by the recent occurrences to sustain him in his well-meant efforts. There can be no question that, as between the hotel owner, who thinks that "if buildings get on fire, the people must look out for themselves," and Mr. Esterbrook, who conceives it to be his duty to exert his power to the utmost to protect people who cannot or do not use such caution as they might from the consequences of their inattention, the latter should have the warm support of the community. To those who live in places where the building laws, if any exist, are administered in such a way as to "make things pleasant all around," the uncompromising energy of Mr. Esterbrook's administration seems particularly admirable, and the commotion which his movements excite among property owners and holders of vested interests is the best possible evidence of the excellent work which he is accomplishing in behalf of the community which he serves so well.

THE New York *World* gives some sketches in relation to fires in theatres, suggested by the sad occurrence at Berditscheff, in Russian Poland, where three hundred persons lost their lives by the burning of a circus-building. In one hundred and three years, from 1777 to 1880, two hundred and fifty-two theatres were burned, with a loss of four thousand three hundred and seventy lives, and serious injury to three thousand three hundred and ninety-nine persons in addition. Since 1880 such catastrophes have become still more frequent and fatal than before, nearly eight hundred persons having been burned or suffocated in theatres within the last twenty-two months. Whether the future will witness a diminution in the number of these sad events it is hard to say, but notwithstanding the prolonged discussion of the subject, and the praiseworthy efforts which have been made to diminish the risk of fires in such buildings, it is very doubtful whether any material amelioration has been made in this respect in the construction of theatres. From the accounts which we find of new buildings of the kind it would seem that architects too often forget that the real agent of death in these conflagrations is not fire, but smoke, which if once allowed to gain access to the auditorium, usually suffocates all the persons in it long before the flames reach them. It has been said that the average length of time which elapses from the moment when the drop-curtain is penetrated by the fire until all life is extinct in the auditorium is five minutes, the longest period observed being eight minutes and the shortest three minutes; and remembering this we fear it must still be said that there is no existing theatre where a run for the nearest door at the instant that fire is discovered on the stage does not present the best, if not the only chance of safety. The construction of large ventilators over the stage, which has been proposed, but not yet very effectively carried out, is a step in the right direction, and this will, we hope, be supplemented before long by the total abolition of the central lustre in the auditorium, with the necessary ventilator over it, and the substitution of electric lights, or of some other contrivance which will permit the movement of air-currents from the auditorium toward and through the stage, and not, as is now the rule, from the stage into the auditorium. In addition to this the curtains, including both the drop-scene and green curtain, and all the scenery, should be of some absolutely fireproof material, which will soon be discovered when a demand for it is felt, and to protect the wood-work of the stretchers and machinery, which cannot perhaps be dispensed with, automatic sprinklers, now coming into use for the purpose, should be scattered abundantly over the stage. In a theatre fulfilling these requisites, together with those of incombustible construction now generally recognized, an audience could sit through the evening in comfort and security, but the expectation of safety from anything short of this is likely to prove delusive.

THE telegraph brings the news of the death of the distinguished French artist Paul Gustave Doré. Doré was born in Strasbourg in 1832, and had been constantly before the public since 1848, when he was employed, although still a mere boy, to draw for the *Journal pour rire*. His earliest essays were remarkable for an imaginative force which might have placed him among the greatest of painters if circumstances had permitted its exercise in a different field; but such as they were, his little caricatures possessed a high degree of interest. It has been said of him that he was the only draughtsman who could give a comic expression to the front of a house, and the saying well indicates the power with which he made the most insignificant details subservient to his idea. A few years afterwards he had the misfortune to be employed to illustrate Balzac's Contes Drôlatiques, and although this was in one sense his most successful work, the atmosphere of fantastic and unfeeling extravagance in which it kept him for a time seems to have given his young mind a bias from which it never entirely recovered. That he would gladly have thrown off afterwards the perverted habit which had impressed itself upon him is indicated by many circumstances, and particularly by his choice of themes for his most important works, among them being a statue of "Love and Faith," and paintings of "Dante and Virgil in the Seventh Circle," and the "Christian Martyrs," besides many pictures of sacred history. That the merit of most of these is inadequate to the requirements of the subject must be acknowledged, but it is something in a painter to respect himself and his art so much as to prefer a pure and lofty inspiration, and even though Doré failed to accomplish all that he wished, he is likely to be remembered for something better than the grotesque work of his early years.

THE proprietor of the Bellevue Hotel, on the New Jersey coast, who threatened last summer to turn out of doors two of his guests, dangerously ill with typhoid fever, and was only persuaded to leave them in peace by a cash payment of five thousand dollars, has been called to account for his uncourteous conduct in the courts. The case has not at the present writing been concluded, but some curious testimony has been brought forward. It will be remembered that the pretext for the claim of money from the friends of the patients was that the occurrence of the disease had ruined the business of the hotel for the season, so that it was necessary to avoid further expense by closing it at once, and the five thousand dollars was represented to be a proper compensation for keeping the house open until the sufferers could be moved. The subsequent conduct of the landlord, however, unfortunately for his case, did not at all correspond to this theory, and far from closing the hotel on account of the fever, he continued business and received guests as usual until the end of the summer. Moreover, instead of behaving like a man who asked and received only a just recompense for his services and disbursements in the matter, it appeared that he was much elated over the transaction, and gave liquor to several of his servants, informing them that "he had just made five thousand dollars." In regard to the sanitary condition of the house, which was made the subject of an inspection by the Board of Health soon after the fever broke out, the engineer employed there at the time testified that slops were habitually thrown on the ground close to the rain-water cistern, so that he would not himself use the water from it, but kept a private supply of his own. Under the kitchen floor there was a pool of water, which ran through when the floor was scrubbed, and stood there stagnant. Before each of the two visits of the Board of Health he was notified to pump water into the tanks which supplied the water-closets, and did so, but at other times they were generally nearly or quite empty. One of the closets, in addition to the lack of water, was out of order, so that the water would not run in it even when the tanks were full, but he adroitly diverted the attention of the Board of Health from it by removing the handle of the door just before their visit, so that they could not get in, replacing it when they were gone. The indictment against the landlord, based upon all these circumstances, was for "robbery, riot, extortion, assault, and maintenance of a nuisance." Whether they will all be sustained is doubtful, but no one will be sorry to see conduct which was discourteous and unfeeling, if not dishonest, properly rebuked.

AN interesting exhibition of manufactured products from foreign countries is to be held in the summer of this year in Boston under the auspices of an association of well-known gentlemen. A lease of the large building of the Massachusetts Charitable Mechanic Association has been secured, and the arrangements will be in excellent hands. Steps have been taken to obtain the coöperation of American consuls abroad, and the characteristic industries of each nation will be well represented. In many respects such a collection will be more valuable and instructive than the gigantic international exhibitions which occur about once in a decade. Most visitors to the Centennial Exposition at Philadelphia probably recall the objects of unaccustomed form or material, such as the Russian silverware, the Kensington embroideries, the Japanese bronzes and furniture, and the English ceramics, much more vividly than the familiar articles of home production, and to many of them the idea has perhaps occurred that one-tenth of the objects shown could have been brought together into a collection which would, to the general public, have possessed about nine-tenths of the interest of the entire exposition. Some notion of this sort appears to have prevailed among the managers of the Boston exhibition, for a special effort is to be made to display Oriental products to advantage. It is said that the Chinese and Japanese exhibits at the recent Melbourne fair much surpassed those sent to Philadelphia, and that they will probably be sent to Boston intact; and arrangements are in progress for a very full representation of Indian, Persian and Turkish manufactures. These arrangements we trust may be successful. No one who has not seen a first-rate collection of Indian goods can imagine the splendid coloring and unapproachable magnificence of material which they alone present, while Persian manufactures are, with the exception of a few glazed tiles and bits of bric-à-brac, practically unknown in this country.

THE Louvre is to be enriched with a collection of great value, although of trifling cost, in the shape of a systematized series of photographs of all the important buildings in the world, as well as of other interesting objects of art. Any one who has tried to form a representative collection of this kind, including perhaps only the buildings of a given style, or subdivision of a style, will appreciate the importance of this complete series, which will, it is to be hoped, be duplicated for the benefit of other museums. Hundreds of the most interesting structures in the world have never been photographed at all, and the list of those which are accessible in this way to the ordinary purchaser is extremely small. Another innovation at the Louvre is said to be the appointment of travelling conservators, who will be commissioned to visit all important exhibitions of works of art throughout the world, and in various ways keep themselves acquainted with the picture market, follow the transfers of important works, and secure a record of their commercial value.

THE great competition of designs for the enlargement of the Sorbonne at Paris has been decided in favor of M. Henri Nénot, the distinguished winner of the first prize in the competition for the Italian national monument to King Victor Emmanuel. MM. Ballu, Formigé, Vaudoyer, and Hermant obtained lesser prizes. The sum to be expended on the new buildings is about twelve hundred thousand dollars, so that M. Nénot will make his entry into professional life under very favorable circumstances. Two other competitions have been closed, both of them for works of sculpture, one being for the statue of Etienne Marcel, to be erected near the Hôtel de Ville, and the other for the statue of Ledru-Rollin. Seventy-five competitors entered the lists for the Marcel statue, so that the subject seems to have been a very inspiring one. In the competition for the Sorbonne buildings, which was restricted to French architects, only twenty-seven designs were submitted: of these seven were thrown out on account of not comprising all the required drawings, and among the remaining twenty ten premiums were awarded, making one to every second competitor. Considering the importance of the commission to be won, it is remarkable that the number of competing architects should have been so small. The jury was composed of the most eminent practitioners in France, including MM. Alphand, Vaudremer, Daumet, Coquart, Brune, Garnier, Ancelet, Ginain and Diet, the six last named having been elected by the ballots of the competitors.

THE next decade seems likely to be one memorable for the great engineering works undertaken in nearly all the civilized countries of the world. To say nothing of the Panama Canal, the other railway, canal, tunnel, and bridge schemes now under consideration would make the age remarkable. In France a vast canal is projected, to connect the Atlantic at Bordeaux with the Mediterranean. A subterranean telegraph cable is now in process of construction, to extend from Paris to Marseilles, and a great number of new railways have been proposed, the total length being about fourteen thousand miles, while nearly thirty-five hundred are already in process of construction. In England the great Manchester Ship Canal has been definitely decided upon, and the manufacturing cities of Preston and Stoke-upon-Trent are about to take measures for putting themselves in direct communication with the sea; while the number of new railway lines projected is far in excess of that for any recent year. In Scotland, the Frith of Forth, or Queens-ferry bridge, with its two enormous spans, will attract much attention among engineers. In Germany, a comprehensive plan has been proposed for connecting all the great rivers of Central Europe by a system of canals, so that vessels can sail without interruption, except by locks, from the Adriatic to the Baltic, and from the Black Sea to the German Ocean. Besides this, communication is intended to be opened between the various portions of the inland country by cross canals, connecting the Danube and the Rhine, the Danube and the Elbe, and the Danube and the Oder. A separate scheme much favored in Germany, and if we are not mistaken already in train for carrying into effect, is for a ship-canal across the neck of the Danish peninsula, shortening the distance between the North Sea and the Baltic, and avoiding the necessity for sending ships of war to and from Russia and Germany past the guns of the Danish forts at Elsinore.

PAPERS ON PERSPECTIVE.—XVIII.

OTHER SYSTEMS AND METHODS.

IN the processes hitherto described every line has been regarded as a portion of an infinitely long line tending towards its vanishing-point, and every surface as a portion of an infinite plane extending to its trace, or horizon; and it is by determining the position of these vanishing-points and traces that the position of the perspective representations of these lines and surfaces has been fixed. This way of looking at the subject involves a comprehensive survey of the phenomena in question, and leads to a proper understanding of their relations. The processes deduced from this study are also generally convenient in practice; for, though some of the vanishing-points are generally somewhat remote, still the space required for drawings executed upon the small scale commonly employed is not greater than can usually be afforded.

Before dismissing the subject, however, it is proper to consider some other methods of obtaining the same results, based upon the consideration of these same phenomena, and involving a more extended application of some of the principles already considered — methods which under certain conditions offer considerable advantages.

322. Several of these special methods are illustrated in Plate XX. In all of them the consideration of vanishing-points and traces is more or less dispensed with, the lines to be represented being considered merely as finite lines lying between two points, the immediate object of the processes employed being to fix the perspective of these points. In some of these methods the abandonment of the outlying vanishing-points leads to so great a reduction of the space required for making the drawing that the work is performed almost entirely within the limits of the picture itself. In executing large works, such as scene paintings or mural decorations, this is, obviously, of great convenience.

THE METHOD OF DIRECT PROJECTION.

323. In this method no use at all is made of vanishing-points, and no reference is had to any of the phenomena of parallel lines that are represented by means of them.

The object to be represented is carefully drawn, both in plan and in side elevation, and the plane of the picture, seen *edgewise* or in section, and the station-point are shown. By drawing lines, representing the visual rays, from every point in the object to the station-point, first on the plan and then in the elevation, and noting their intersection with the plane of the picture, the horizontal and vertical position of the perspective of every point may be ascertained, and a representation of the object obtained by drawing lines connecting the points.

Figure 89 illustrates this method, giving at *a*, *b*, and *c*, the plan of a cross, set obliquely, and two elevations, both of which are necessary, as neither one of them exhibits all the points visible from the station-point, S, in front. Lines representing the visual rays are drawn, both in plan and in both elevations, from all the visible points to the point S, and the points where they pierce the plane of the picture, *p p*, indicated. These points, being transferred to the side and bottom lines of the figure, 89, *d*, suffice to determine the position of each point in perspective.

This kind of projection, in which the lines of projection converge to a point, instead of being parallel as in plans and elevations, is called conical projection, as distinguished from orthographic.

THE MIXED OR COMMON METHOD.

324. The method of direct projection is seldom used to determine vertical dimensions — that is to say, to fix the position of horizontal lines — the labor of constructing two oblique elevations being intolerable; but it is very generally employed for the determination of horizontal dimensions; that is, to fix the position of vertical lines, the length of vertical lines being determined by means of lines of vertical measures and vanishing-points on the horizon.

Figure 90 illustrates the application of this mixed method to the subject of the previous figure. The vertical lines are drawn as in Figure 89, *d*, their position being taken from the geometrical plan at *a*, by direct projection. Their length is determined by setting off the real heights, as given by the elevation along-side, on a line of vertical measures, *v v*, taken where the plane of the front of the cross intersects the plane of the picture. This is fixed by the point *m*, in Figure 89, *a*. Figure 89 also serves to determine the vanishing-points V^R and V^L, and the corresponding points-of-distance, D^R and D^L.

325. Though this method is deficient in scientific unity, an entirely different principle being employed for horizontal dimensions from that used to determine vertical dimensions, it is often very convenient in practice, especially when, as is frequently the case with buildings, a carefully drawn ground-plan, prepared for other purposes, can be taken advantage of. This is still the process most commonly employed by architectural draughtsmen for the determination at least of the main lines of their work. Points-of-distance, points of measures, and the vanishing-points of inclined lines, are employed, if employed at all, only as auxiliaries and alternative devices.

326. But the employment of the perspective plan to determine horizontal distances, and thus fix the position of the vertical lines of a perspective drawing, as has been done in the previous chapters, is altogether preferred by the best and most recent writers, and by the best-informed draughtsmen. It has the signal advantage of avoiding the confusion and error that necessarily attend the multiplication of points of intersection distributed along a single line. Even in the figure just given, simple as it is, we find in 89, *a*, a dozen points crowded together upon the line *p p*. It is not easy, in transferring them to Figure 90, to keep clearly in mind which is which — which indicates a point at the bottom, which a point on the top, which belongs to the front plane and which to the back. In the perspective plan, on the contrary, Figure 91, every point is significant; there is no confusion, and the relations of all the parts being clearly exhibited, there is much less danger of trivial inaccuracies than in a blind and merely mechanical procedure. Moreover, if the perspective plan itself becomes too crowded with details, it is practicable to make a second or a third, as has already been done in Plate III. In the case of high buildings it is usual to make a separate perspective plan for each story, those of the upper stories being drawn above them, as those of the lower stories are drawn below. These plans are always perfectly intelligible and serviceable after any lapse of time, and, as has been said, may conveniently be made on separate strips of paper, thus saving the drawing itself from disfigurement, and, indeed, protecting it from injury. These strips of paper with the plans upon them can then be preserved, and in case a second drawing for any reason has to be made, half the labor of making it will have been saved.

327. Other and incidental advantages of this method are the great facilities it offers for designing in perspective, for working up a perspective drawing from rough sketches, and altering and adding to it at will, studying the effect of such changes as may be suggested by taste or convenience. It is also to be observed that the perspective plan takes up less room than the orthographic plan, with its system of visual rays directed towards the station-point, and this is sometimes a consideration of some importance.

328. The reason why the perspective plan is so little used, although the theory of points-of-distance on which it is based is perfectly familiar, is that unless this plan is sunk considerably below the picture the desired points are not very accurately ascertained, the lines whose intersections determine them cutting each other at an acute angle. Sinking the plan, however, as is done in Figure 90 and elsewhere, entirely obviates this, and has the advantage, not only of enabling one to draw it on a separate paper and preserve it for future use, as has just been suggested, but of keeping the picture itself free from construction lines.

THE METHOD OF CO-ORDINATES.

329. The method of co-ordinates applies the principles of parallel perspective, as set forth in Chapter VII, to the solution of every class of problems. Lines parallel and perpendicular to the picture are treated as is usual in that system. Lines inclined to the picture are determined, as in the method of direct projection, by ascertaining the perspective of the points between which they lie, their vanishing-points being neglected. The position of a point in space being known, the three dimensions that determine its position can easily be put into perspective, two of them being taken parallel to the picture, and the third perpendicular to it; and, the perspective of every point being thus ascertained, the lines lying between them are easily drawn.

In speaking of these three directions, at right angles to each other, it is convenient, just as we call the vertical dimension height, to speak of the horizontal dimension parallel to the picture as width or breadth, and of the other horizontal dimensions, perpendicular to the picture and parallel to the axis, as depth.

330. Figure 92 exhibits the application of this method to the same subject as that by which the other methods just mentioned were illustrated. The eye being supposed to be about three inches from the paper, the point-of-distance would be three inches from C, the centre of the picture. The point of half-distance is accordingly set an inch and a half off, at $D\frac{1}{2}$, and the *perpendicular* dimensions are laid off upon the ground-line of the perspective plan in Figure 92, *b*, at half the scale of the orthographic plan above (Figure 92, *a*), from which they are taken. (142.)

In Figure 92, *c*, the vertical dimensions, as given by the elevation in Figure 90, are laid off upon the scale of heights erected at *g*. Horizontal lines drawn from the points thus ascertained to the centre, C, and vertical lines drawn from the points previously ascertained upon the scale of depths, drawn from *g* to C, in the plan below, determine by their intersection the height above the ground-plane and the distance behind the plane of the picture of every point in the object to be represented. This enables one, if he pleases to do so, to construct a perspective of the side elevation, as

is done in the figure, just as the perspective of the plan is constructed. In fact, Figure 92, *c*, is the perspective of Figure 89, *b*, just as Figure 92, *b*, is the perspective of Figure 89, *a*. The perspective plan and elevation being both given, the perspective of the object is easily constructed.

It is sometimes convenient to construct this perspective elevation in a vertical plane not perpendicular to the picture; a plane, that is, whose horizontal elements are directed to some other point of the horizon than the centre, C. This is shown in Figure 92, *d*. In this case points upon a new line of depths are taken across from the line *g* C.

331. All this, though simple in theory, is laborious in practice, as the application of general methods to special problems is apt to be. In most cases it is not worth while to give up the facility and accuracy afforded by the use of vanishing-points for this tiresome and roundabout process; but when the object to be drawn is irregular in shape, or bounded by curved lines, so that it has to be put in by points at any rate, the method of rectangular co-ordinates, according to parallel perspective, best meets the case. Even when such objects occur in a drawing made in angular perspective it is often convenient to employ it. When, finally, the scale of the drawing is so large, or, what comes to the same thing, the space to work in is so small, that the vanishing-points are inaccessible, this method is of great service. By employing points of half-distance, or quarter-distance, etc., the necessary constructions can generally be confined within the limits of the picture itself.

332. The most common application of the principle of co-ordinates is to the determination of the size of miscellaneous objects, such as trees, animals, or human figures in landscapes. A vertical scale being established in the plane of the picture, resting upon the ground-line, lines converging to any convenient point on the horizon suffice to show how large any object, a human figure, for instance, should be drawn in any part of the picture.

This use of a scale of heights is illustrated in Figure 93. The figures are supposed to be all of the same height as the one in the immediate foreground. The scale of heights, on the left, shows how tall such a figure will appear at every point of the horizontal plane between the ground-line and the horizon. The position of such a figure above or below that plane will not of course affect its apparent size. The man in the balcony, on the right, for instance, is drawn just as tall as the man on the platform beneath, and the persons upon the inclined plane descending to the water are of the same height as those upon the pavement alongside.

The size of the different vessels is determined in a similar way.

333. It is worth while here to point out that though points of half-distance, quarter-distance, etc., in parallel perspective, do not serve, as do points-of-distance, as vanishing-points of lines of 45°, such lines can nevertheless easily be drawn through any point by their aid.

Let *a* and *b* in Figure 94 be two points through which it is desired to draw lines making 45° with the axis and with the ground-line, the centre, C, and the point of half-distance, $D\frac{1}{2}$ being given: By drawing through these points lines directed towards C and $D\frac{1}{2}$, crossing them with a line parallel to the horizon, and then doubling upon this line the distance intercepted, lines may be drawn which are obviously directed towards $D\text{-}V^{x}$.

If the point of one-third-distance is given, the intercepted portion must be trebled, as at *c*, or quadrupled, as at *d*, if the point of quarter-distance is used.

It is hardly necessary to explain how a square can be erected on a given line parallel to the ground-line, as is shown in Figure 94, using points of half, third, and quarter distance.

THE METHOD OF SQUARES.

334. The processes of the method of co-ordinates may be much simplified, especially in the case of objects irregular in plan, by adopting the device of *squaring*, commonly used by draughtsmen to assist them in copying the outlines of drawings, especially such as are to be copied on an enlarged or reduced scale. It consists in first covering the drawing to be copied with a net-work of lines, then reproducing this net-work at the scale required, and finally in filling in, by the eye, the portion of the drawing included in each of the reticulations.

335. The method of squares applies a similar procedure to the putting into perspective of a complicated perspective plan. A net-work of lines being first drawn over the plan in question, its perspective representation is easily drawn in parallel perspective. The details of the plan can then be filled in with sufficient accuracy, and the vertical dimensions obtained from a scale of heights.

Figure 96 illustrates this procedure, *a* being the orthographic plan, *squared*, *b* the perspective plan, and *c* the drawing.

The figure does not show how the heights are obtained. They may be obtained either by *squaring* a side elevation and putting it in perspective, after the manner of Figure 92, *c*, or by erecting lines of vertical measures at convenient points in the plane of the picture, as in Figure 90.

336. If a sunk perspective plan is used, as in the drawing, the outlines of the plan in the picture can most easily be found by the use of proportional dividers, the distances of the corresponding points from the horizon being proportional.

PICTURES OF THE SEASON IN NEW YORK.—I. THE EXHIBITIONS.

THE exhibition season opened this year with a new departure—an autumn show at the Academy of Design. It was proposed, I believe, to make it a collection of fresh summer work, but, perhaps because it was opened ere most of our artists had returned to town with the fruits of their summer campaign, and while a large proportion of them were still absent in Europe, it turned out to be a most disappointing and uninteresting collection of old work, much of it very poor in quality, and some of it looking like the very refuse of the studios. Only a few pictures deserved any attention; chief among them being a large canvas by Mr. Bridgman from the recent *Salon*. It was called, "Planting Rape in Normandy," and was a refreshing proof that Mr. Bridgman does not intend to devote himself forever to conventional, semi-theatrical transcripts of Eastern life. It was singular and good in composition, with a steep hill-side in the middle distance, and at its foot men ploughing and women planting seeds in the furrows. It was full of light and atmosphere, and broad in handling, in these respects agreeing more with the studies Mr. Bridgman showed two years ago in New York than with the majority of his larger pictures. In tone it was a little too dark for the sunlight effect desired, yet that effect was well suggested none the less, and in color it was sober and good.

At about the same time the American Art Gallery on Madison Square—which has passed into new hands, and been altered for the better, so that it is now more than ever the best room in the city for showing pictures—was opened with a collection of sketches and studies. Here we found the freshness and novelty that we had looked for in vain at the Academy. The works were mostly small in size, and while the first favorable impression caused by their freedom and freshness was not in all cases afterwards sustained by the finding of much artistic excellence of sentiment or idea, yet the workmanship was almost always good. The pictures were, moreover, evidently true studies, and not things manufactured in the studio to bear such an appearance. Among the best were some really beautiful figures by the two young Morans; Mr. Tracy's studies of dogs; Miss Greatorex's flowers in water-color; Mr. Vedder's sketch of the burning Park Theatre; a landscape by Mr. Alden Weir, and a couple of heads by Mr. Carroll Beckwith. Slight, shallow and commonplace in feeling as were some of the numbers, there was hardly one in the room which showed the old, hard, conventional, uninstructed modes of working to which our artists were wedded not so many years ago.

The Brooklyn Exhibition I did not see myself, but published criticisms, and an inspection of the catalogue showed that it was, as usual, chiefly made up of pictures that had already been exhibited in other places. Prominent on the list was a fine portrait called "Ethel," by Mr. Beckwith, which I saw last year in Philadelphia, and which he ought now to exhibit in New York, as it gives a far better idea of his talent than any work he has lately shown us.

The Black-and-White Exhibition of the Salmagundi Club in December was extremely good. But few etchings were shown, as the Etching Club reserves its force for its own exhibition which, as was the case last year, will occur in conjunction with that of the Water-Color Society. There were also fewer wood-engravings than one could have wished. Chief among those that were shown was a beautiful cut by Mr. Closson of a child standing in a white night-dress on a great fur rug. It was not only noteworthy as a good example of Mr. Closson's handiwork, but as being a reproduction of a painting by his own hand, and, chiefly, as being the first wood-cut one of our men has ventured to publish as an independent work of art. There is no reason why this art, at the point it has now reached, should be inevitably tied to literature any more than the same should be the case with etching or with steel-engraving. It is to be hoped that Mr. Closson's cut—which is published by Mr. Eastman Chase, of Boston,—may be followed by numerous issues of a similar sort. Wood-engraving is supposed to be especially well understood and beloved by our public, and we should be ready to purchase fine cuts for their own interest alone, especially as their price is so far below that of other reproductive works.

The great variety of methods adopted for black-and-white work in this exhibition, and their careful manipulation showed what a hold monochromatic production has taken upon our men. Oil, Crayon, Charcoal, Water-Color, and sometimes a mixture of two of these processes are all widely practised, and as such different effects can be obtained with each, the critic is not inclined to cavil, even at the process of black-and-white oils which has so often been pronounced "illegitimate." The chief objection to it is that no scale which runs

logically from black to white in oil paints can be agreeable to the eye, the intermediate grays being distressingly cold and hard; but this defect is often obviated by using a more brownish scale, and then, if the artist has a true eye for the relations of his scale, there is little fault to find. Unfortunately some men, not content with the effects of a true monochromatic scale, secure a cheap variety and effectiveness by using two scales in the same picture. This was the case, for example, with a landscape by Mr. Tryon—a very clever painter, by the way—where the ground was treated in a brownish scale, and the sky with tones of gray. Nothing could have been more false as art, and it is to be hoped that no more such experiments will be made by men who can do good work when on the proper track.

Mr. Shirlaw sent a number of crayon sketches of Italian subjects, usually graceful in line and full of sentiment. Especially pleasing was a group of Italian women around a fountain. Mr. Currier sent from Munich a number of charcoal studies of trees that were extremely summary in treatment but massive and truthful in effect. Even without his gorgeous color he is a most suggestive and individual sketcher; but I wonder much—and I heard the wonder echoed by his Munich friends last summer—whether he does not mean ever to display his incontestable talent in a completer way.

Many good landscapes were exhibited that cannot here be cited. But a word must be given to some monotypes by Mr. Charles Walker which were far better than most of those he produced last year when the process first attracted notice. A large one showing a stormy sea, with breakers in the foreground was extremely fine, both in drawing and in the effect of motion and liquidity given to the waves. It was difficult to see how this last-named quality could have been better expressed by any other way of working. An interesting feature of the exhibition was a group of drawings in the corridor—the originals of the designs so familiar through the pages of *Harper's Christmas*. They were most of them very well done, but their chief value was when put into mental comparison with the engravings made after them. The result was an increase of the pride we already felt in our engravers, and their complete justification from the heaviest charges brought against them by unfriendly critics. It has been said for long in some quarters that they do not know how to "draw with the graver," or to properly use "the line" in expressing their intended effects; but here, while we saw a charcoal half-figure by Mr. Chase, which had been reproduced with Chinese fidelity by Mr. Juengling in work where such a thing as a real line could not be seen, near it was a sea view by Mr. Quartley which the same engraver had translated into the purest line work, immensely improving it in the process by the addition of far more accurate drawing than could be found in the original. And Mr. Cole had found most beautiful line work for his duplicate of Mr. Dielman's "Girl I Know," which was executed in delicate water-color washes; but the chief example of wood-engraving skill was to be found in Mr. Cole's version of Mr. Vedder's "Samson." As so often before Mr. Vedder had had a good idea, but had been unable to give it proper shape. His drawing was weak and poor, and not true in tone, but Mr. Cole's drawing *was* true in tone, and was drawn firmly and artistically. If one had been offered the choice between the original and one of the wood-cuts from it, there could have been no hesitation in choosing the latter.

The exhibition of the Boston Artists now open at the American Art Gallery has won favorable criticisms on every side. Twenty artists are represented, each usually by several examples. Mr. Fuller, as was to be expected, carries off the laurels; but I cannot yet speak of the collection in detail as I have had but a glimpse of its contents.

The arrival of Dr. Haden was followed by a reception at the Union League Club, when many of his etchings as well as a fine collection of American plates were put on view. Dr. Haden is enthusiastic over our work, and New York was enthusiastic over Dr. Haden's. A little later Mr. Keppel placed on view, in his rooms on Sixteenth Street, the largest collection of Haden's etchings that has ever been got together in any place. It was all but complete, and I need hardly say, of the very greatest interest. One was charmed to be guided, moreover, by a catalogue annotated by the etcher himself, and giving his own criticisms on his work. Even when one does not agree with an artist's judgment of his several productions, it is a great guide to one's own decisions, and a great help to one's comprehension of his activity as a whole, to see how he feels and criticises. The collection numbered over one hundred and fifty prints, some of them absolutely and many of them almost unique. I believe it is no secret that it has been sold *en bloc* to Mr. Claghorn, of Philadelphia, only such examples to be subtracted as were already in his possession. I cannot here speak at length of these etchings, which are so familiar by name if in no other way to all lovers of the art. Dr. Haden deserves, if criticised at all, to have a chapter to himself. The opposition and anger excited in so many minds by his recent utterances on the subject of other methods of engraving should not, by the way, enter into a consideration of his work, as they do not militate against our intense enjoyment of its versatility, its freshness, its power and individuality. There is no living landscape painter to compare with him, taking his work as a whole, and it is doubtful whether there ever was even in the days when his master, Rembrandt, was still on earth.

The Water-Color Exhibition and the Artist's Fund open on the 29th inst., and we shall soon after have the spring collections which promise to be of unusual interest.

M. G. VAN RENSSELAER.

THE HOUSE THAT JILL BUILT.[1]

AN uncommonly gifted woman was Jill, what our mothers would call a notable woman, practical, well balanced, and, if prejudiced at all, with prejudices having a foundation in common sense: just the woman an architect would like to build a house for, especially if she happened to be his own wife. We believe that it can hardly be the most pleasant of occupations for an architect to build a house for his own wife, who may be supposed to have absorbed, by endosmosis or otherwise, rather more rigid notions of architectural proprieties and possibilities and a greater knack of presenting her arguments plausibly than the ordinary female client usually achieves. Still, we presume many of our subscribers have built and are living in their own houses, and we think it would afford a good deal of gratification to others if they should offer them to us to be published as a series of illustrations of the homes of American architects.

But to return to our heroine. Amongst other wedding gifts Jill finds a check from her father which is to pay for a new house, so that the newly-married couple find their most interesting occupation during their honey-moon trip in examining such houses as attract their notice, not only externally but, after due explanation, internally, a possibility which the confidence every householder has in the infallibility of his own taste and judgment throws within their reach. Of course none of them suits the critical female visitor. On their return home to the house that Jack built as a home for his bride, but in which Jill utterly refuses to live except during the time required for building her own house, and which throughout the preliminary discussion serves as the *exemplum horribile* to point the moral of all her arguments, a large number of letters are found awaiting them from friends who have built their own faultless houses and are consequently in a position to offer advice. These infallible recipes Jill epitomizes as follows:—

"It appears, Jack, my dear, to be absolutely indispensable to our future happiness that the house shall front north, south, east and west. We must not have large halls to keep warm in cold weather, and we *must* have large halls for style. The stories must not be less than eleven nor more than nine feet high. It must be carpeted throughout, and all the floors must be bare. It must be warmed by steam and hot-water, and furnaces, and fireplaces, and base-burners, and coal grates. The walls of the rooms must be calcimined, painted, frescoed and papered; they must be dyed in the mortar, finished with leather, with tiles, with tapestry and with solid wood panels. There must be blinds—outside blinds, awnings, inside shutters, rolling blinds, Venetian shades, and no blinds at all. There must be wide low-roofed piazzas all around the house, so that we can live out of doors in summer, and on no account must the sun be excluded from the windows of the first story by piazza roofs. At least eight patent sanitary plumbing articles, and as many cooking ranges, are each the only one safe and fit to be used. The house must be high and low. It must be of bricks, wood and stone, separately and in combination; it must be Queen Anne, Gothic, French, Japanesque and classic American, and it must be painted all the colors of an autumn landscape."

Jack consoles his spouse with the suggestion that all this advice has not to be paid for. One adviser, however, is more interested than the others, and aunt Mellville pertinaciously sends letters of advice and sets of drawings which she borrows from friendly householders and some architects who are not unwilling to play for a new "job" in this way. These designs Jill treats with more consideration than the letters of her other advisers, and they serve to make the illustrations in the book before us the more interesting. How much the advice given affects her does not appear, but when the time comes for decision Jill shows her force of character by "roughing-out," without apparent effort, the plan of her future house, which all the skill of the architect is not able to improve on in any essential feature. Her good sense is shown still more in employing an architect and in speaking as she often does of his functions with an unusual degree of insight: for instance in speaking of the exterior of the house she says: "In that part of the undertaking we are bound to believe that the architect is wiser than we, and must accept in all humility what he decrees." She also listens with an uncommon complaisance to the lectures and advice of the architect, and her temper, which is as uneven as that of most women of genius, is not ruffled by this plain statement of the "rights of the matter."

"There is often a misunderstanding between architect and client, and I wish to avoid it in the present case by saying at the outset that while there are many things which, in my opinion, should be referred to you, I am ready to decide them for you if you wish me to do so, but even in such cases I prefer to set before you the arguments *pro* and *con*, after which, if you still desire it, I shall accept the arbitration. This is not a rule that works both ways or applies universally, for while refering to you matters relating to use and expenditure, and at the same time standing ready to decide them for you, I cannot promise to accept your advice in matters of construction and design. I trust I have not yet reached the fossiliferous state of mind that prevents my listening with sincere respect to candid suggestions even from those who are not fairly competent to give advice, but on these points you must not expect me to follow your taste and judgment in opposition to my own,

[1] *The House that Jill built after Jack's had proved a Failure.* A Book on Home Architecture, with illustrations. By E. C. Gardner. "Our Continent" Library, New York: Fords, Howard & Hulbert. 1882.

even if you do pay the bills. When your physician prescribes arsenic and you inform him that you shall give it to your poodle and take strychnine instead, he will doubtless infer that his services are no longer desired; he will know that while he might be able to kill you, he could not hope to cure you. Patients have rights which physicians are bound to respect, but the right to commit suicide, and ruin the physician's reputation, is not among them. The relations of client and architect are similar."

This little book is even more entertaining and suggestive than Mr. Gardner's previous books have been, and the scheme of its construction is a refreshing change from the somewhat antiquated fashion of imparting instruction by the publication of a fictitious correspondence. Although Jill and her architect do talk now and then "like a book," Jack's ideas are both human and lively, and the book has an interest for the mere story-reader in the little romance which is skillfully introduced in the love-making of the ultra-practical Jim and the super-æsthetic Bessie.

The illustrations are abundant, suggestive, and, as a rule, good, but the tail-pieces are a little too —— archaic.

We think Mr. Tourgée made a mistake in writing an introduction to the book, particularly such an introduction. Mr. Gardner does not stand in need of any "endorsement," and the public distinctly objects to being bullied as to the opinion which it is to form on the books it reads.

THE ILLUSTRATIONS.

MANTELS FOR T. B. HANDY, ESQ., CLIFTON, CINCINNATI, O. MR. J. W. McLAUGHLIN, ARCHITECT, CINCINNATI, O.

COMPETITIVE DESIGN FOR A $3,000-HOUSE. SUBMITTED BY "*Try.*"

Should any one of our non-professional readers be tempted to build such a house as this for himself, we shall be pleased to further his interests by putting him into communication with the author.

PERSPECTIVE PLATE XX. — MISCELLANEOUS METHODS.

For description see article elsewhere in this issue.

THE $3,000-HOUSE COMPETITION — II.

SKELETON SPECIFICATION.

MASON.

Excavating: — Make all necessary excavations for area of entire building, trenches for footings, foundation walls, etc.

Make excavations 6″ larger on each side than size of walls, and leave open until walls are well set and dry. Then refill with sand to within one foot of surface; rest to be filled with clay if handy and pitched away from building and covered with soil.

All outside walls to be of limestone (footings firmly bedded in sand), of thickness shown on plans, and laid in good lime mortar. To be laid true and smoothed with full flush joints.

Pointing: — Portions above ground to have tuck-pointed joints on face.

Bricks: — All brick to be common, of good quality, chimney-tops to be selected out.

Inside walls: — Inside walls to be 8″ thick, carried three courses below cellar floor; to be footed out to 12″ and carried up to floor.

Cellar floor: — Cellar graded to an even surface, and laid with sidewalk-brick in sand.

Chimneys: — Chimneys to have flues 8″ x 12″ thoroughly pargetted.

Thimbles: — To have five sheet-iron pipe-connections 7″ in diameter with tin caps.

Lath: — Lath walls and ceilings of 1st and 2d stories with sound, soft, pine lath, with four nailings to each lath.

Plaster: — To be made of fresh-burned lime slacked at least six days before using, run through a sieve and mixed with proper quantity of clear, sharp lake-sand and lime.

The first coat to be thoroughly scratched and when dry the second coat to be finished to a true surface, well worked and floated.

Cove, etc.: — Plaster in cove and gables to be laid on wire lath; in cove to be run to a true surface with templet and set with bottle ends as directed.

Plaster to have sawdust instead of hair; to be ½ American cement, and surface to be pebble-dashed.

CARPENTER.

Lumber to be seasoned, second, clear soft pine. Joist 2″ x 10″; studs, 2″ x 4″; rafters on pitch, 2″ x 4″; decks, 2″ x 6″; ceiling joist, 2″ x 4″ and 2″ x 6″; plates and sills, double, 2″ x 4″; double joist under partitions where needed; three joists over Parlor bay. Joists 16″ on centres; studs same; and double at all openings. Joist over and under Parlor to have one line of bridging. Trimmers and headers to be double. Sills well spiked to joist and plates.

Lining Boards: — Cover outside studs with seasoned, planed and matched furring, nailed to each stud, and cover with one thickness of building paper, with lapped joints.

Corner Boards, Belts, etc., of "A" select 1⅛ stuff.

Siding: — Cover outside of first story with clean, soft pine siding laid 5″ to weather.

Shingles: — Cover second story with clear, white-pine shingles laid 6″ to the weather; and to have two belts of cut shingles on front as shown, to be 4″ wide. Roofs to be laid with 4½″ to weather.

Deck: — To have tar and gravel roof to pitch to rear. For cornices and outside finish see details.

Gutters: — Gutters to be run on rear and left-hand elevations in manner shown and to have proper pitch; to be made of ⅞″ pine.

Floors: — Floors to be of ⅞″ pine laid double in both stories.

Windows: — Basement, plank frames with hinges. Parlor, plank frames with hinges. Front Chamber, plank frames with hinges. China Closet, Pantry, Hall-Closet and Servant's Room, sliding sash, plank frames. All others box frames.

Second-story windows except in front and hall to have no outside casing.

Sashes: — Sashes to be 1⅜″ thick. Basement sashes to swing up to joist and fasten with wooden latch.

Window-Fixtures: — Windows of Parlor and Front Chambers to swing out. To have japanned butts and Berlin bronze catches and holders. Windows in box-frames to have Berlin bronze fasts, hemp cord, and iron weights. Other windows to have sliding catches of iron.

Doors: — Basement frames to be of 2″ plank; doors for same to be battened.

First Story to be 1⅛″; doors for same to be 1⅜″ thick, with flush mouldings: see detail of front door. To have five panels to a door.

Second-story doors to be 1⅜″ thick stock with ogee stiles and rails; frames 1⅛″.

Front Door to be 1¾″, 3′ 0″ x 7′ 6″ six-panelled, pine as shown.

Basement and second story doors to be 7′ 0″ high. First story 7′ 6″ high. All closet doors to be 2′ 6″; all others 2′ 8″.

There are to be no doors in Parlor.

Door-Furniture: — Basement doors to have two strap hinges and iron latch; outside-door to have bolt. Hatchway-door to have handle and hook, of iron.

All doors, except Kitchen and Servant's-room, to be hung with two 4″ x 4″ Berlin bronze butts; those to be 4″ x 4″ japanned iron.

All doors, except closets, to have mortise locks and latches; closets to have mortise latches.

All to have composition knobs.

Inside Finish: — All inside finish, except Kitchen, Servant's-room, Pantry, chimney-closet, and clothes-closets, to be ⅞″ thick, with reeded face, beaded corners, and flush corner-blocks, 5″ wide. The rest to be plain; finish in closets, 4″ wide.

Base: — Base in first story to be 9″ wide with moulded top; in second story to be 8″ wide with bevelled edge.

Stairs: — Basement to have two plank carriages, with 1⅛″ treads, no risers. Rear stairs, to second floor, to have two carriages with 1⅛″ treads, ⅞″ risers.

Front stairs to be of red-oak, three carriages 1⅛″ treads ⅞″ risers, moulded nosings, turned balusters, square newel, provided for newel-light; all as shown by details.

Wainscot the Kitchen and Bath-room, up four feet from floor, with 3″ bevelled pine sheathing; to have base 5″ wide, and moulded cap.

Closets to have two rows of japanned-iron hooks set 9″ apart in each row and alternating, and secured to strips 1″ x 3″; upper strips 5′ 6″ from floor; lower, 4′ 6″ from floor.

Each closet to have shelf ¾″ x 16″ set 18″ from ceiling.

Pantry and China-Closet to have table shelf 1¼″ x 18″ with two dwarf drawers, 4″ deep, under each, and cupboards under these.

Pantry to have place for flour-barrel, with hinged lid in shelf. Each to have four shelves above, without doors, set 12″ apart.

Sink to be of clear, soft pine, 5″ deep, 18″ x 30″, with joints white-leaded, and to have drainer at each end; have one door underneath.

Bath-Room to be finished in first-quality clear white-pine for hard oil-finish.

Water-Closet: — Fit water-closet with double lids, both hinged, and whole put together with screws for readily taking apart.

Bowl: — Provide door under bowl.

Stripping: — Lay strips when necessary to attach water-pipes.

Veranda: — Veranda floor to be 1⅛″ stuff, 4″ wide, 1″ pitch. Ceiling of same ⅞″ x 3″ beaded pine, with moulding in angles.

Tin: — Line gutters with IX roofing tin, 14″ wide. Line valleys with IX roofing tin, 14″ wide.

Conductors to be 4″ tin where shown on plans, connected at grade with drain-pipe, and properly attached one inch from walls.

Flash all necessary outside wood-work, such as behind all sawed panels, tops of belts, etc.

Hot-Air Pipes to be of heavy charcoal iron with soldered joints, attached with band-iron straps, in places shown on plans, and of their respective sizes.

Registers: — Furnish and fit all warm-air registers where shown, to be 10″ x 12″ provided with valves, and japanned faces.

Drains: — Excavate and refill all trenches necessary to lay all drains and water-supply.

Drains to be of first quality hydraulic-cement pipe of sizes and in places shown on plans, provided with all necessary traps, etc.

Main drain to have trap with hand-hole with 4″ vent-pipe to grade. Drains must have Y-branches, and be laid 2″ below cellar bottom.

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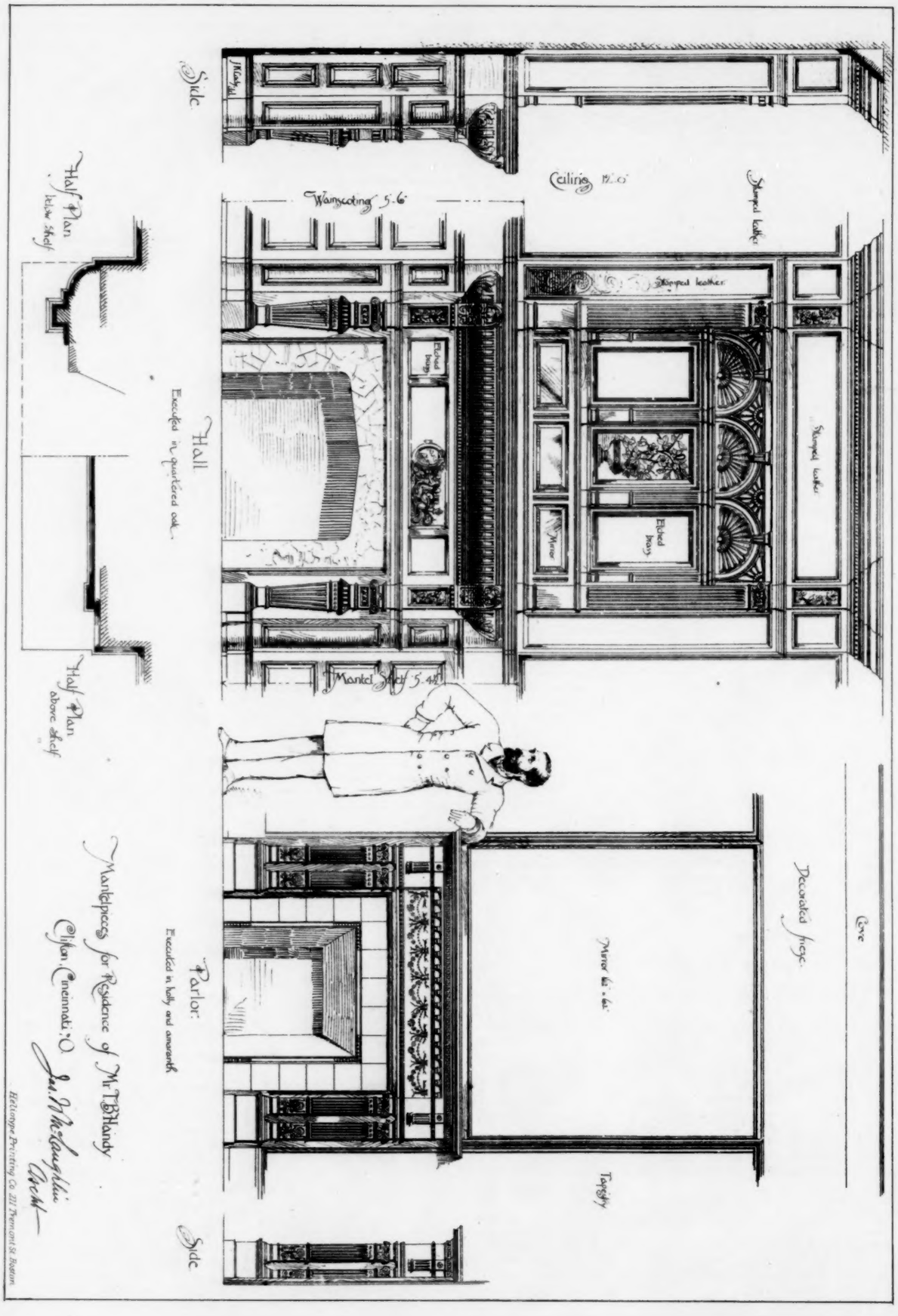

Mantelpieces for Residence of Mr T. B. Handy
Clifton, Cincinnati, O.
Jas. P. McLaughlin
Architect

Heliotype Printing Co. 211 Tremont St. Boston

No. 570 American Architect and Building News, Jan. 27, 1883.

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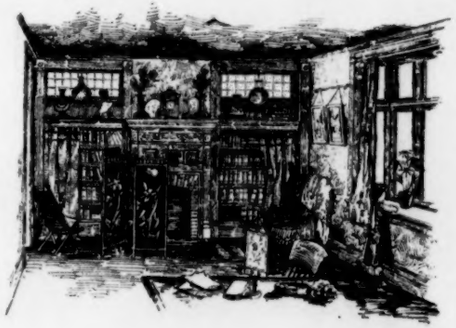
American Architect Competition

Design For a $3,000 House



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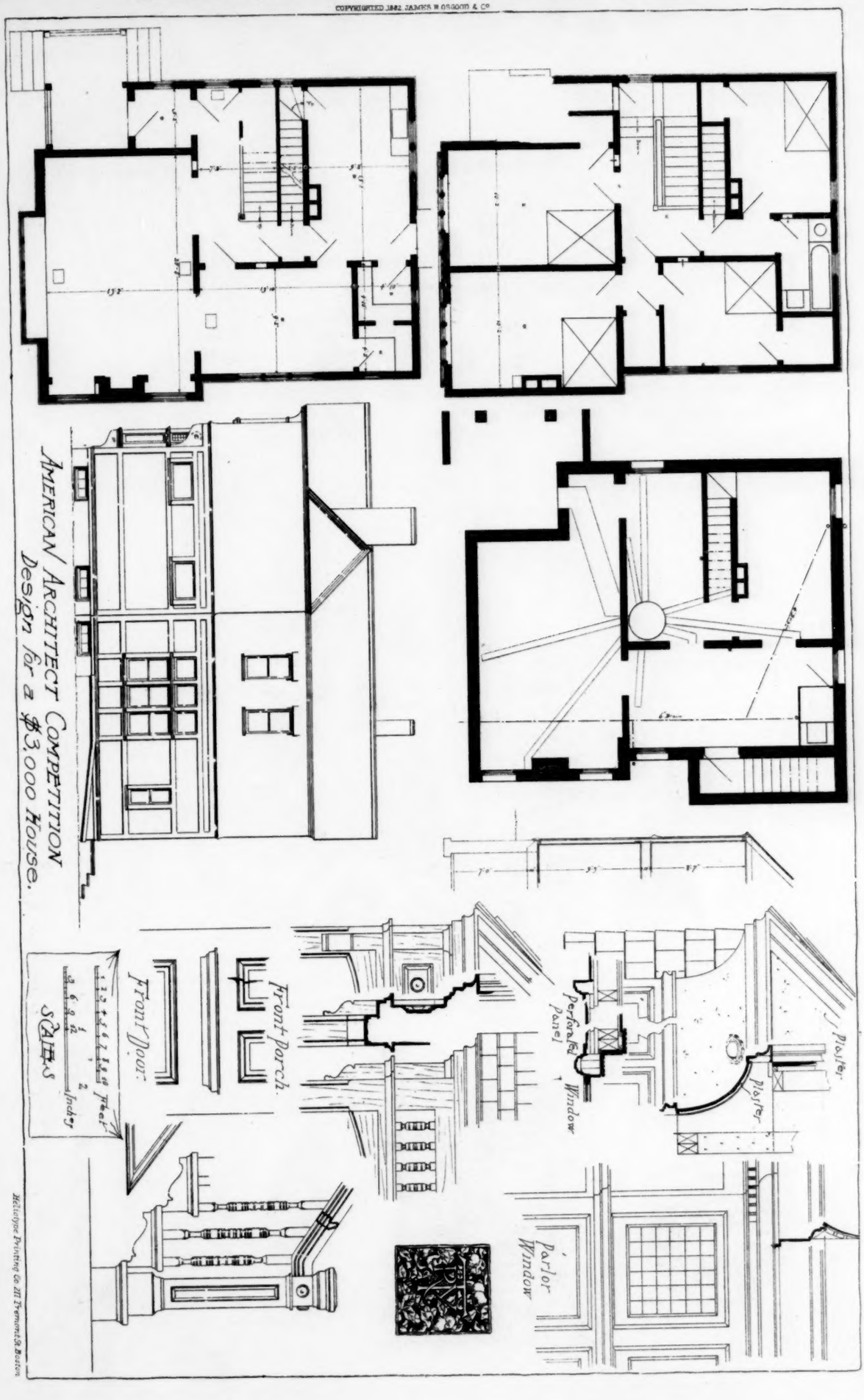

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American Architect and Building News. Jan. 27, 1883. No. 370

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PLATE XX. VARIOUS METHODS.

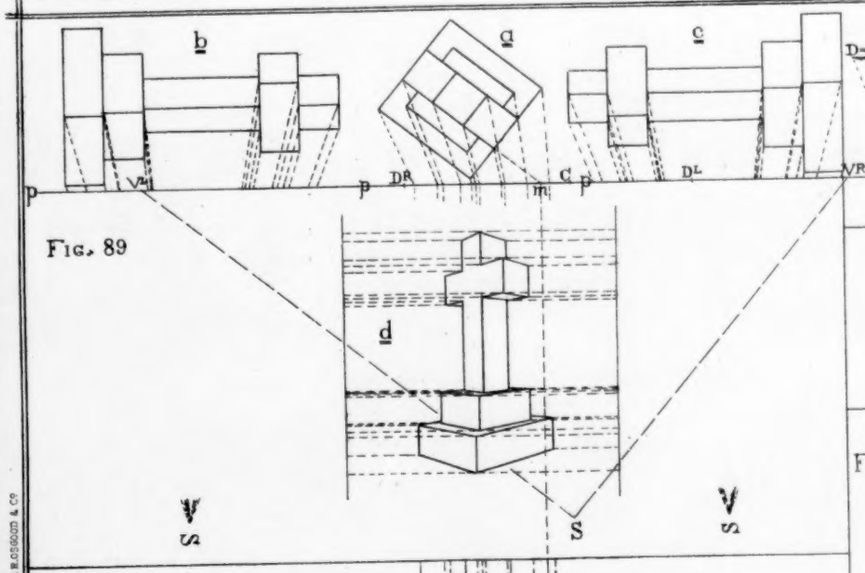


Fig. 89

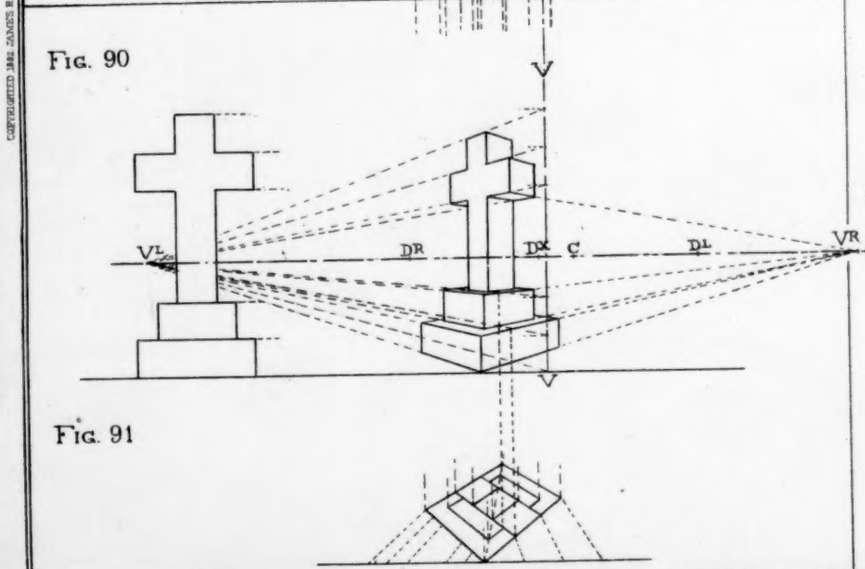


Fig. 90

Fig. 91

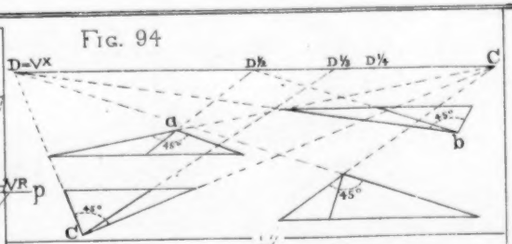


Fig. 94

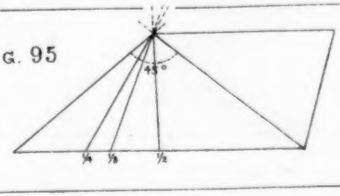
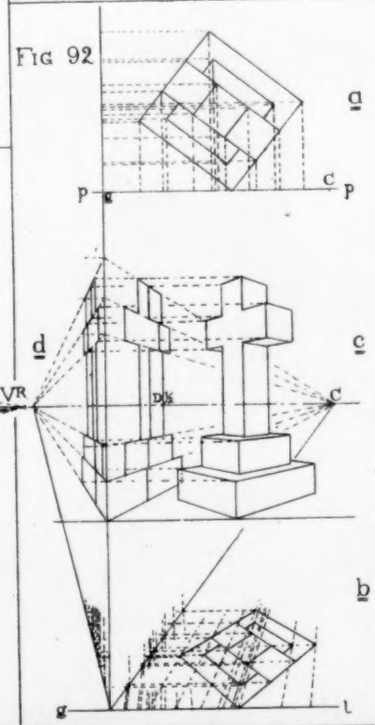


Fig. 95



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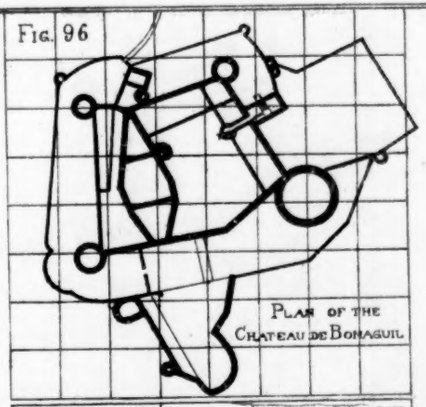

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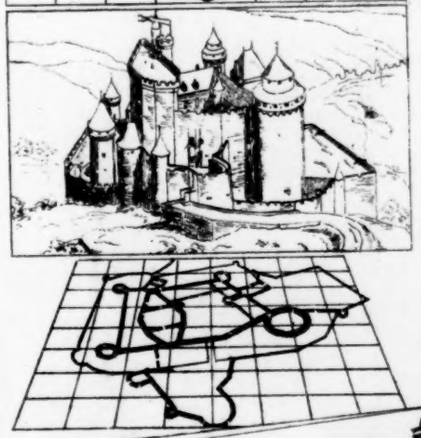


Fig. 93

Heliotype Printing Co. 211 Tremont St. Boston

Pipes:—All lead, supply and waste pipes secured to ⅞″ boards, and no pipes to run on outside walls, and all must be laid so as to clear themselves when shut off.

Front of building is 30′ from street. Supply-pipe is ⅝″, the hot-water pipe is ⅜″, and hot and cold are to run both to Kitchen-sink and Bath-room.

Soil-Pipe to be 4″ cast-iron, and to extend one foot out of roof; to have lead joints, and be attached with proper hooks and hangers.

Boiler: — Set 30-gallon galvanized-iron boiler on cast standard, and connect with range and pipes.

Provide ¾″ sediment-cock and pipe, and connect with nearest waste-trap. To have ½″ stop-cock on supply.

Water-Closet to have 4″ 6-lb. sheet-lead traps; supply-pipe to have stop-off cocks to control same.

Bath-room to have a Cooper, Jones & Cadbury valve pan-closet.

Basement to have plain hopper-closet.

Tub: — Bath-tub to be 6′ long, of 10-oz. planished copper.

Bowl: — Basin to be 12″ bowl, marble slab with sunk scotia, and 10″ high; ½″ plated bibbs, rubber plug, chain and all complete; back Bower's traps to bowl and tub.

Tub to have combination-cock with rubber tube and plated shower.

Provide shut-off cock, box and rod at Kitchen-sink.

Bath-room fixtures to be nickel-plated. Kitchen fixtures brass.

Gas: — Pipe house for gas to each room where shown on plans by * to be not less than ⅜″ for any fixture-connections.

All pipes must be graded so that any water can be drawn out at some convenient point near meter.

All joints to be made in red-lead.

Painting:—Clean off and smoothly sand-paper all wood-work before applying any paint. Shellac all knots and putty all nail-holes before beginning.

Outside:—Shingles of roof to be painted two coats of Indian red and linseed oil.

The shingles of the second story to be painted three coats, the color to be an olive, made with yellow ochre, Prussian blue, black and a bit of red. The siding of the first story to be same, several shades deeper. The olive to be well on the ochre side of the color. Belts of first story to be Indian red with a little black mixed. The sawed panels to be nearly a pure ochre, perhaps a trifle darker and warmer. These outside colors to have no white lead.

Interior:—All interior wood-work to be three coats of parti-color, to match papers if desired, except Bath-room and front stairs, which are to have Wheeler's filling, properly applied, and then two coats of hard oil-finish, rubbed down with pumice and oil to a dead and even surface. Wood-work in basement to have one coat.

Glazing:—All sashes to be set with double-thick American glass, that in front rooms to be selected with most care. Transom-lights in Parlor window to be quarry-glazed in tinted cathedral glass of 3-inch squares.

All to be properly bedded, tacked, puttied and left clean and whole on completion of building.

ESTIMATES OF QUANTITIES AND PRICES RULING IN MILWAUKEE, WIS.

[In the following estimates, the carpenter-work, mason-work, painting and glazing were figured by a responsible contractor who is just finishing a residence from "*Try's*" drawings. The other items are figured by responsible firms here, and names of all can be given if desired.]

MASON.

Excavating	$42.00
12½ cords stone, laid	187.50
5 M. brick, laid	60.00
2 chimneys, at $1 per foot	75.00
3 M. brick laid cellar floor	30.00
660 yards plaster	132.00
Plaster in cove and gables	15.00
6 stone sills	3.00
Total	$544.50

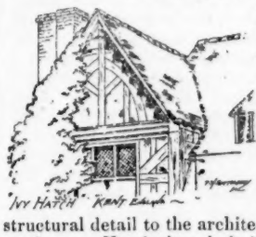
CARPENTER.

7,000 feet lumber in place	175.00
8,500 feet matched fencing in place (25 % allowed)	210.00
1,200 feet siding, in place (25% allowed)	36.00
750 feet A select, 1¼″, in place (25 % allowed)	58.00
2,500 feet mouldings, outside, in place. (This includes furring out shingles at bottom second story)	41.50
Finish of gables	25.00
100 feet ridges, in place	10.00
15,000 shingles, in place	75.00
Gravel roof on deck	20.00
500 lbs. paper	25.00
600 lbs. nails in all	24.00
Back steps	8.00
Sawed panels, in place	25.00
Front porch, complete	59.00
Basement.	
Hatchway complete (stairs and covers)	15.00
6 basement windows, in place, complete	18.00
Cellar stairs	15.00
Basement W. C.	10.00
Cold-Air Box	10.00
5 doors, plank frames; batten door complete in place	25.00
First Floor.	
150 feet base-board in place	15.00
Parlor window complete in place	60.00
2 small windows in Parlor in place	$10.00
11 other windows, finish and all, in place	100.00
10 doors, casings and hardware, 1⅜″, in place	90.00
1 front door, 1¾″, in place	15.00
Bath and Kitchen wainscot up 4 feet in place	25.00
Kitchen sink	10.00
Cutting for plumber	6.00
Pantry and China-closet complete	35.00
Front stairs, of oak, in place	80.00
Closet under, with hooks and shelf	5.00
Back stairs up	25.00
Second Story.	
Windows in front chambers in place, without panels	60.00
5 other windows complete	40.00
215 feet baseboard	17.20
Bath-room finish beside wainscot	15.00
13 doors up-stairs, 1⅜″	104.00
Floors all in matched fencing.[?]	
Bell from front door to kitchen	10.00
Total	$1,587.70

PLUMBING.

6-foot 10-oz. planished copper tub	14.00
Pan closet	10.00
12-inch bowl, slabs and cocks	15.00
30-gallon galvanized-iron boiler	15.00
Trimmings to sink	4.00
30 feet 4 inches soil-pipe	10.00
200 feet ½-inch pipe	40.00
Cock over boiler	2.00
Bath-cock	5.00
Shut-off cock, rod and box	1.50
Curb stop and box	3.00
Water permit	4.00
Waste-pipe, lead	10.00
Fastenings and stays	3.00
Hopper-closet, trap and all	10.00
4-inch lead trap	3.00
60 feet 6-inch drain, 40c., laid	24.00
Trap	$2.00
Sewer permit	3.00
14 feet 4-inch drain, 30c., laid	4.20
Labor	30.00
2 Y's and 4 elbows	4.00
Total	$216.70
60 feet conductors	6.00
50 feet gutter	10.00
Flashing, etc.	40.00
195 feet gas-pipe in place	20.00
Total	$76.00
120 feet furnace-pipe, single	30.00
8 registers, 10 x 14	$12.40
8 feet smoke-pipe	3.00
Furnace	125.00
12 elbows	3.00
Total	$173.40
Glazing	40.00
Painting	205.00
Total	$245.00
Architect's commission at 5%	150.00
Total	$2,993.30

HORTICULTURAL BUILDINGS.[1]

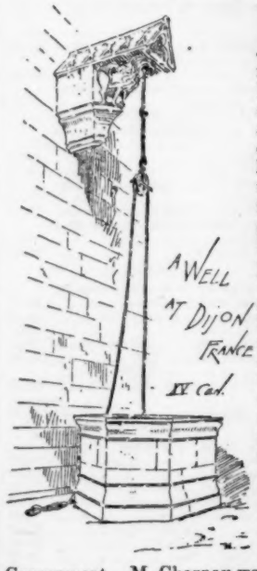


MR. F. A. FAWKES, F. R. Hort. S., read a paper lately on this subject before the Architectural Association, illustrated by numerous diagrams and sections, drawn to large scale, and executed with great clearness and firmness of outline. He said he proposed to deal with his subject in regard to questions of construction, leaving those of architectural design and structural detail to the architect, and all methods of planting to the gardener. Horticultural buildings might be divided into two classes: growing-houses — to which he should principally confine attention — and showing-houses. The former class might again be subdivided into three sections: the first, those in which plants were grown in pots or stages, or at a certain distance from the glass; this section comprising simple greenhouses, plant-houses, houses for bringing on bedding stuff, some descriptions of orchard-houses and plant-stoves, without bottom heat. The second section included houses in which foliage was trained along the roof, such as early and late vineries, muscat, peach, and other orchard-houses. The third and last section comprehended houses in which root-action was stimulated, such as cucumber and melon houses, fruit succession and fruiting-houses, pits with forcing or propagating beds, and plant-stoves containing heated beds. In the second-class, or show-houses, conservatories were the principal buildings. The peculiarly trying conditions under which horticultural buildings existed — viz., the varied temperature outside and within; the moisture-laden air of the interior; the exposed character of the structures; the necessity for durability, solidity, and yet the minimum obstruction to light — warranted every precaution being taken that the materials used should be thoroughly sound; that the construction allowed of no crevices for retention of moisture or the harboring of insects; and that the buildings, by subsequent periodical painting and repair, were kept in good preservation. The first main point in connection with a growing-house was to determine the pitches of roof most advantageous for various purposes. The more nearly sunlight struck the glass roof at right angles, or within 30° of a right angle, the less obstruction to the rays of light did the glass offer. The next point was how to obtain the maximum impingement of the sun's rays at, or as near as possible to, a right angle, for the position of the sun relatively to the earth was always varying. In most cases, for plant and flower-growing purposes, especially when pot-plants required to be near the glass, a low pitch economized space and artificial heat, and was better than a high pitch. He recommended, therefore, a pitch of from 26° to 30°; but if it was lower than 26°, rain would drift in under the laps. For fruit-growing along the rafters, when the ripening process required the maximum sun influence, from 36° to 44° pitch was desirable; and for wall fruit, where the glass required to be as near the wall as possible, and a specially narrow form of house was adopted, 60° to 70° of pitch might be allowed. For many varieties of growing, a lean-to was the most suitable form of house, and it also utilized a wall or building already in existence. The best possible effect for such a house was to face the south, but even then some portion of the sunlight was lost. In consequence of the brick protection to the north, and the glass-work fronting south, a lean-to was easier to heat than a house in which the glass was exposed in every direction. When no high wall existed or was required, or for building a right angle to lean-tos facing south, or when a minimum height or equable heating of all parts was required, span roofs were the most suitable. In such a house the ridge should run north and south, and thus the contents of the house would obtain as perfect a distribution of the sun's rays as possible. Those two forms of roof, the lean-to and the span, were the most simple forms employed; but there was a third, which was a compromise between the two, the three-quarter span. This was employed when the back wall of a lean-to had to be kept as low as possible, or when it was necessary to let light in at the back. When a number of houses were required they should be planned so that the group should be as compact as possible, and the buildings for consecutive operations should be as far as could be arranged in consecutive order. The boilers should be fixed in the most convenient position for their work, and no separate building should be allowed to suffer unnecessarily from the combination with others. Important points in the planning of these buildings were site and levels. Where the site could be made a matter of choice, care should be

[1] From the *Building News*.

taken to ensure a place where trees or other objects were not likely to obstruct the sunlight, and thus ascertain the site which presented the greatest relative advantages with regard to aspect, drainage, stoke-hole, furnace, chimney, potting, and fuel-sheds, and retaining a particular view from other buildings. If the ground were not level, the exact nature of the irregularity should be ascertained; if fully level in the direction of the length of buildings, well and good; if otherwise, means must be taken to correct the variations. In any case of irregularity the boiler should be placed at the lowest end. Even supposing the ground to be perfectly horizontal, the question of floor-levels would have to be considered. As a general rule, the levels of the floor should correspond with those of the ground; but if there were a difficulty of drainage, or the boiler could not be made as low as was necessary, it was advisable to raise the floor-level. It might, to reduce obstruction to a minimum, be necessary to sink the floor-line in some cases below the ground; but in that case, great care should be exercised as to the drainage, or the house might be perpetually flooded. Formerly it was more common to sink the houses in order to retain heat; but with modern facilities for heating, such a course was unnecessary. Houses in combination, forming one range, should, if possible, have their floors on the same level. Stages from one house to an adjoining one should be avoided; but if necessary, parallel, disconnected lines of house might occupy different levels without inconvenience. In all cases, easy intercommunication for a wheel-barrow should be provided between houses. In constructing a glass house, several points should be remembered, especially in regard to the roof. Obstruction to the sun's rays should be minimized; yet the structure should be durable and substantial, and lateral thrust should be avoided. The rafters should be sufficiently deep for the purpose, yet not so deep that the oblique solar rays would be materially arrested. For growing-houses, a roof well tied with light iron rods would enable rafters to be much shallower than would otherwise be possible. His experience showed that a sash-bar roof, with T-iron purlins between the rafters, was lighter, had less material in it, was not so liable to rot, and, in fact, answered every practical purpose better than the heavier and more substantial sash-roof. The advantages of the sash over the sash-bar combination were that the roof could be practically stripped if more air were required within, and the building could be removed without the necessity for taking out the glass. Passing on to consider the questions of glass and glazing, the lecturer stated that for clear glazing 21-oz. English sheet was generally used. Thinner qualities were not so advisable, and Belgian glass was not so desirable as English. Wavy or speckled glass was apt to scorch plants. For a semi-obscure glass, Hartley's rolled plate was generally used. He had come to the conclusion that for use in purely growing horticultural houses, no system hitherto invented was more advantageous than putty-glazing. Putty-glazing was so inconvenient to renew, and so apt to crack and peel off, that horticultural builders would welcome any method which promised to be more advantageous, but the requirements had not at present been met. In all the mechanical methods of glazing, the glass came into contact with either a metallic or an elastic substance. In the former case there must be a sufficient amount of "play," or the glass would certainly break; in the latter case the elastic substance was found in practice, chiefly in consequence of internal moisture, excessive variations of temperature, and atmospheric influences, to give far more trouble to gardeners than putty properly made and applied. If any "play" was given to the glass, hot-air escaped, and such houses could not be thoroughly fumigated, while the glass was broken by the freezing of water collected in the crevices, which also harbored insects. The most usual form of ventilator was a framed light, hinged at the top and open from the bottom outwards. Sliding sashes for roof ventilation had almost gone out of fashion, except for single frames, low pits, and houses in which the roof had at times to be practically stripped. For other purposes sliding roofs were cumbrous and unmechanical. Both top and bottom ventilators should extend along the whole length of a house, except in the case of top ventilators of a span or three-quarter span, which might be arranged alternately on either side of the ridge. Continuous ventilators then being necessary, consecutive lights might be made to open simultaneously, or each could be arranged to open separately. Unless the lights were very numerous, the latter plan was generally the best, and the ordinary notched "set-opens" could be used for lower lights, and a quadrant actuated by a cord and a counterbalance-weight for upper and top lights. When, however, to save time, or from inaccessibility, there was not convenient means of opening, the best gear was a pair of double-jointed arms attached to each light and keyed to a bar held in blocks fixed to the mullions. The partial rotation of the bar and opening of the lights might be effected by a handle keyed on to the bar at any part, pinned to a quadrant, or the motion could be conveyed by a connecting-rod to some distance. Similar apparatus could be used to actuate top-lights. Double-jointed arms were the best form, as they offered no obstruction to pots, plants or foliage. Roofs had occasionally to be wired to support foliage trained under them. A good plan for wiring, say a lean-to, was to take two flat bars, turned edgewise, and suspend them at back and front by holdfasts, bolted at back through the wall, and at front into the mullions. Then at the necessary intervals wires should be stretched across by means of raidisseurs to the two bars. Intermediate parallel bars, dependent upon the length of rafter, would serve to support these wires, which could thus be arranged at any distance apart, and could be altered as was found necessary. They were thus more convenient for painting, and to the gardener's needs, than permanently-fixed wires. The lecturer mentioned that he usually employed No. 12 B. W. G. wire, spaced ten inches apart and ten inches from the glass. In planning the staging in a house the points to observe were facility of drainage from pots, economy of space, accessibility, and proper distance from glass, each depending on the height of plants to be grown. The usual lattice-wood stage, composed of three-inch by one-inch laths with three-quarter-inch spaces between them, was very suitable; but where the plants required to be set into damp moss, sand, or shingle, carefully drained concrete, zinc or slate lined, and wooden stages were necessary. In a nursery the chief requirements were training-wires along the roof, a prepared border about three feet deep, and provision for thoroughly draining the border, and for preventing, by means of a concrete bed, or otherwise, the roots of vines from penetrating the subsoil. The front wall should be built on arches to allow of the soil border running outside, as well as within the house. The chief feature of a forcing-pit was an arrangement of hot-water pipes for heating the soil of which the bed was composed, supplementary to, and independent of, the pipes for atmospheric heat. A better plan than carrying these pipes through the bed itself was to take them through an air-chamber under the bed; in this position the vapor-troughs were more accessible and the whole arrangement was better. It was best to keep those three classes of houses for plants, grapes, and cucumbers separate, for, if combined, a high degree of cultivating efficiency had to be sacrificed. He must first allude to show-houses or conservatories, as to which several points should be kept in view. The conservatory must be treated as one of the reception-rooms of the dwelling, and without departing from its strictly horticultural character, an endeavor should be made to approximate it architecturally, both inside and without, to the other portion of the house. Having designed with a view to this, the remaining points to be carried out could be summed up thus: Give as much light as possible; ornament the construction, and never construct the ornament. Interest and pleasure should be excited by the broad lines of a conservatory rather than by meretricious and fussy detail. As to the interior, throw away stages, hide the pots, and give natural beds and banks of foliage and flower, massed with artistic irregularity. Let there be an ample paved space — not a mere path — between these, so that a chair and table can be placed in the conservatory, and treat it as a lounge rather than a mere place to be walked round in single file. If size permit, then rockwork, or fountain, or sculpture may find a place in it. Baskets of hanging foliage have a good appearance; bare walls can be hidden by creepers; and an awkward space in the brickwork may sometimes be turned into an aviary. In fact, while not sacrificing the strictly horticultural *raison d'être* of the structure, a judicious combination of art with nature may intensify the enjoyment derived from a conservatory, and the beauties of plants and flowers may be absolutely enhanced by the introduction of such artistic accessories as have been mentioned.

THE LORILLARD EXPEDITION.



M. CHARNAY has come back to Paris from that Mexican journey which he was enabled to make through the liberality of Mr. Pierre Lorillard. The circumstances are well known. M. Charnay had already explored Mexico for remains of ancient American civilization, but he wished to return, only his government either could not or would not find the money. In such matters governments are all alike. So Mr. Pierre Lorillard put his hand in his pocket, and M. Charnay has now done Yucatan thoroughly at his expense and has brought home a superb collection of the remains of Toltec civilization. That is the result for Europe, and for America, it seems to be that there is now a heap of ruins in Yucatan called Lorillard City. Of all these archæological treasures, America and Mr. Lorillard are to have nothing, although they were collected with the aid of Mr. Lorillard's money. When the matter was first talked of — so M. Charnay says — the explorer proposed that Mr. Lorillard should share half-and-half with the French Government. M. Charnay was obliged to introduce his government into the bargain because he is a French professor and received his commission to search from the Ministry of the Interior. Mr. Lorillard — I am still quoting M. Charnay — said that he did not care to have any relics; all he wanted was to promote the search for them. M. Charnay thought this so strange that when his bark came home laden with the precious remains of early American civilization, he

thought it his duty to make a second offer to Mr. Lorillard, this time not of originals, but of casts from the collection. He did this with the direct assent of the French Government, and he was authorized, moreover, to sound Mr. Lorillard as to his willingness to accept the Legion of Honor. The offer of the decoration was also made to Mr. Thorndike Rice, who has warmly interested himself in the whole undertaking. The casts, M. Charnay suggested, might be sent to the Museum in Central Park, a much more accessible place for them than the Smithsonian Institution. He accordingly wrote to Mr. Lorillard and to Mr. Thorndike Rice, but he has never had a word from either in reply. He cannot understand this, he says, and he is much embarrassed, both on his own account and on account of his government. The French Government cannot offer the Legion of Honor without having a previous certainty that it will be accepted, nor can they go to the expense of sending the casts without knowing that Mr. Lorillard would care to have them. According to M. Charnay, the statues and inscriptions brought over are invaluable, especially from his point of view, as they establish his contention in regard to the Toltec origin of early American civilization, and the comparative modernness of the Toltec work. He has found nothing over seven centuries old, and he thinks that the fact of his having found anything at all is conclusive on the question of age. Most of the ruins are in excellent preservation, and if they were much earlier in origin this would certainly not be the case. The climate and the soil and the manner of building are not calculated to preserve them. The ruins in Greece, where everything is favorable for preservation, are at present in a worse condition than those of Yucatan, for which a far higher antiquity is claimed. All this will only increase our regret that Mr. Lorillard should not have secured a fair share of these treasures for his own country. One is quite at a loss to understand his indifference on this point. It seems that when the first offer was made — of half a share of the originals — he not only declined, but on M. Charnay's representation that people would think it strange, he telegraphed back, "I don't care." Now he does not even give himself so much trouble as that in rejecting the second offer of casts and public honors — he does not answer at all. M. Charnay says he is lost in conjectures as to the cause of a silence which he considers wanting in respect to his government, not to speak of himself. He wonders whether Mr. Lorillard and Mr. Rice may have taken offense at his not having called upon them on his way back with the treasures. At that time, it appears, he was suffering from a painful and disfiguring tumor in the face, due to the bite of an insect, which made it impossible for him to show himself in society before he had seen his doctor. I give you his version of the matter just as I had it from his own lips. No doubt it will admit of a reply.— *Richard Whiting in the New York World.*

A SEWAGE FARM IN THE LEA VALLEY.

SCULPTURED PANEL : FOUNTAIN AT PEROUSE. ITALY.

THE following are some particulars of the sewerage works which have recently been carried out in the special drainage district of Much Hadham and Hadham Cross, a town situated on the river Ash, a tributary of the Lea. Previously to the execution of the works, the place was in the usual unsatisfactory condition which obtains where cesspools form the only means of disposing of the sewage. A number of the wells were found upon analysis to be contaminated. The district is of a somewhat rural character, and it was considered one where the surface-water generally was sufficiently pure to flow at once into the natural water-courses. The separate system of sewerage was then determined upon. The nature of the place made it somewhat difficult to gravitate the sewage onto land sufficiently raised above the level of flood-waters, and so avoid the error, only too prevalent in the Lea Valley, of discharging sewage onto land too low to be effectively underdrained; but it was found after careful investigation that a suitable site could be acquired some miles down the line of the Ash. The sewage is taken to this land by a 12-inch outfall-sewer, having a gradient of 1 in 660, which contours the side-long ground to the west of the valley for the purpose of obtaining convenient depths. The man-holes on the outfall-sewer are furnished with sluices, so that the flow can be headed-up and a velocity obtained in excess of that due to the gradient. The tributary sewers are 9 inches in diameter, with the exception of a short length having a rapid fall, which is 6 inches. The gradients are so arranged as to give the greater falls where they are most required, at the upper ends, and average about 1 in 100, except in the case of the principal town sewer, where there is a considerable flow of sewage, which has a gradient of 1 in 300. These sewers also are provided with sluices in the man-holes to aid the flushing arrangements. The total length of the sewers is about two miles and a half, and they are constructed throughout of stoneware pipes, jointed with yarn and Portland cement. Particular care was exercised to secure water-tight sewers, and an idea may be gained of the success of these efforts when it is known that, although at the completion of the works not a drop of water got into them (notwithstanding the fact that a considerable section was laid below the level of the subsoil waters), yet before a dozen house-connections had been made a stream of sewage passed down the whole length of the outfall-main onto the land. Ample ventilation is afforded by man-holes and lamp-holes at frequent intervals, which are carried up to the surface and covered with strong iron gratings. These covers are well finished off, having four rings of granite pitching bedded round them, falling slightly away from the centre, so that the danger which so often exists to horses and carriage-springs is entirely obviated. The flushing arrangements are very complete for a district without a water-supply. One of the flushing-tanks (the largest) is placed at the extreme head of the system, and its contents can be suddenly discharged through a 9-inch outlet pipe. Water is collected chiefly from land-drains and the road surfaces, but the large tank already referred to is supplemented with an Abyssinian well and pump, so that even in the dryest seasons water can be obtained at the point where it is most needed; and as the net-work of sewers is arranged so that nearly the whole can be flushed, if necessary, from this one tank, the system is practically independent of the storage of rain-fall for flushing purposes. It has been found by experiments that even without the use of the sluices in the man-holes one discharge produces a flow of considerable velocity through the entire length, which is maintained to the extreme point of outfall. No settling-tanks are provided to retain the sewage until putrefaction sets in— a frequent cause of nuisance— but a small straining-tank in duplicate receives the flow and intercepts rags, corks, etc. It is needless to say that under the above conditions the sewage reaches the outfall in a fresh state, and becomes assimilated by the soil and vegetation long before decomposition takes place. The sewage-farm recently purchased by the Sanitary Authority consists of some four acres of land on the west bank of the Ash. The soil is a light gravel lying above the chalk. Water-tight pipe conduits are constructed along and across the farm, and are furnished with an efficient system of sluice-chambers to enable the sewage to be directed to any required spot. Part of the area has been trenched two feet deep, and the remainder was deeply cross-ploughed. The whole of the sewage is passed over the surface and through the soil. The works have only been completed some six months, and the farm is already in full work. A good roadway has been made along the line of the upper boundary, affording ample facilities for cartage, etc. The system of sewerage is found to work well, and it is to be hoped that as much care has been taken in carrying out the connections. The total cost of the structural works was under £2,500. Messrs. Smith & Austin were the engineers who designed and carried out the works, and Mr. Barnard Lailey performed the somewhat onerous duties of resident engineer. We hear that at Wormley also, lower down the valley of the Lea, land has been acquired, and that works of sewerage are about to be carried out by the same engineers.— *The Builder.*

A QUESTION OF PAYMENTS.

FORT WAYNE, IND.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Gentlemen, — Perhaps it would be right and proper to bring to your notice, and for the benefit of the profession, a case in our courts here, where one Trennam, an architect, is the plaintiff, and one O'Conner is the defendant. The testimony shows that O'Conner employed the architect to make him sketches for a house to cost four thousand dollars, but such a house as was wanted would cost eight or ten thousand, and he was so informed by the architect. The owner is nearly blind, and wanted the architect to make him a rough pencil-sketch that he might take it home to show to his family, instructing the architect how he would like the rooms located, and what size. The sketch was made, also pencil-drawings worked out for all plans and elevations, and said O'Conner and family had asked and requested that such-and-such things might be made so-and-so to suit their ideas of a house.

The scale-drawings and tracings were made and colored, but as the testimony shows, the owner had ordered the architect to stop; that it was too late in the fall to build, and he was going South. Nothing more was done for some months. The owner not visiting the office of the architect, the architect called at the home of the owner and asked for fifty dollars, and stating that the drawings were nearly ready for figuring, except details and specifications. The owner asked who ordered him to finish the drawings, and further stated that he would not pay him his bill. Several weeks after the owner was to start South he called on the architect and paid him twenty-five dollars, as he supposed, in full, and took a receipt. In his absence his wife and daughter called on the architect and had some alterations made and some sketches, and on his return he employed other architects.

Architect Trennam met O'Conner on the street and asked him to settle his account, $80. O'Conner said he would not pay a cent. He was sued in Justice Court and judgment given the plaintiff, $58; in the higher court judgment given the plaintiff, $35. The plaintiff's charges were one per cent on $8,000 and one-half per cent on $8,000 for ruined sketches.

I. X. L.

THE ORIGINAL PORTRAITS OF WASHINGTON.

To the Editors of the American Architect: —

Dear Sirs, — Referring to Mr. Charles Henry Hart's review of her work "Original Portraits of Washington, including Statues, Monuments and Medals," in No. 337 of the *American Architect*, June 10, 1883, Miss Johnston notes with pleasure that Mr. Hart places at her disposal *all his data* relative to Washington portraits. Miss Johnston is now preparing a second edition of this work, and she desires to avail herself of this offer, and will be obliged if Mr. Hart will forward to the editor of the *American Architect*, for her use, the data referred to. The author cheerfully corrects, in this new edition, inaccuracies that have been pointed out by reviewers, or discovered by herself, having an earnest desire to free the work from error and establish the history of Washington portraiture.

THE ARCHITECTURAL ASSOCIATION OF MINNESOTA.

St. Paul, Minn., January 15, 1883.

To the Editors of the American Architect: —

Dear Sirs, — The Architectural Association of Minnesota held its annual and regular meeting at Minneapolis, on the 2d inst. The roll of officers elected for the current year is as follows: E. B. Bassford, of St. Paul, President; Isaac Hodgson, of Minneapolis, Vice-President; D. W. Millard, of St. Paul, Secretary; Fred. G. Corser, of Minneapolis, Recording Secretary; J. Walter Stevens, of St. Paul, Treasurer.

The work of the past year has been chiefly that of organization. A closer acquaintance has been promoted among the architects, and it is probable that other and practical benefits will follow the promised endeavors of active members in the near future.

Respectfully yours, D. W. Millard, *Secretary.*

NOTES AND CLIPPINGS.

The new Facade of Florence Cathedral. — The portion of the façade which is now completed, and which can be seen as yet only by penetrating beneath the matting which entirely conceals all the scaffoldings, represents financially about half or two-thirds of the computed cost of the whole façade, and it is truly marvellous to think that such an enormous surface can have been covered with such admirable marble tarsia and carved work for so small a sum as 500,000 francs—about £20,000. Such a result is possible only, thanks to the greatest ingenuity and economy of the superintendents and to the exceptional resources, physical and mental, of Tuscany. The material is altogether Tuscan, the white marble having been brought from Serravezza, the red (like a fine *rosso antico*) from the neighborhood of Siena, the green from Prato, and a rich red breccia from the Garfagnana. The work is also entirely Tuscan. The models of the statues have been supplied at cost price. The highest day's wages of any of the workmen is from three to six francs. Six francs a day are the wages of the head stone-mason, who with his son has modelled and chiselled all the finest arabesques and foliations of the portals, some of which are extremely bold and at the same time delicate in effect. The workmen, whose number has just been reduced from seventy to sixty, are almost entirely from the districts of Fiesole and Settignano, which gave Florence some of her greatest Renaissance sculptors in Mino, Benedetto da Majano and Benedetto da Rovezzano. To these men, who are none of them able to draw, who have learnt all that they know from study of the older portions of the cathedral and from patient practice, are given only the general measurements and the roughest outline in charcoal on the wall by the architects, and they furnish a much better idea of the men who worked at Pisa, at Siena, or at Chartres than could any highly taught and highly æstheticised modern architect. Still while admiring the beautiful work of these masons (which contrasts painfully with the feeble inspirations of the modern sculptors who have tried to adapt to Gothic purposes the remnants of the insipid Bartolini style of fifty years ago), we must not forget how much in really striking and beautiful effect of the façade is due to the architects, obliged to study, often to guess, under the matting of the scaffoldings, the exact proportions and reliefs of all the various portions of an enormous mass of marble incrustations which will be seen at such different heights and distances. — *The Athenæum.*

Discovery of a Mausoleum on the Island of Rhodes. — The Austrian archæological authorities have had the luck to find at Gulbaktche, opposite the island of Rhodes, a mausoleum of great importance, and to recover almost the entire sculptural decorations, consisting of reliefs of subjects from the "Odyssey," combats of the usual character of the best time of Greek art, — Greeks with Amazons, with Asiatics, etc. — the whole of which, though cut in a sandstone not calculated to resist weather as the limestones do, are in an excellent condition. The Turkish Government, on learning the importance of the find, telegraphed to their official in charge that he was not to permit the series of reliefs to be separated. The Government firmans always claim the half of the sculpture found in the excavations on the Crown lands, but the Austrian Superintendent, interpreting this in the sense that they were all to go together, claimed the whole by virtue of this order, and had them shipped before the mistake, if it was one, could be corrected. Doubtless the Stamboul authorities meant quite otherwise, but it is open to debate whether, if the Turkish Government was responsible for a decision which virtually annulled the rule of division of the *trouvaille* the Austrians had not the right to avail themselves of the modification to their own advantage. The Porte had certainly no right to claim the Austrian half of the proceeds of the joint enterprise, and if the series must be kept entire the only practicable solution was that which the Austrian Superintendent of Works arrived at. The monument will be set up at Vienna. — *Pall Mall Gazette.*

Earthquakes and Pagodas. — A notable instance of the Japanese understanding of the conditions under which they exist occurs in the manner of giving security to pagodas. Pagodas are often of great height, yet many have existed for seven hundred years, and have withstood successfully the many vibrations of the ground, which must have inevitably achieved their overthrow had they been erections of stone or brick. When I first ascended a pagoda I was struck with the amount of timber employed in its construction; and I could not help feeling that the material here wasted was even absurdly excessive. But what offended my feelings most was the presence of an enormous log of wood in the centre of the structure which ascended from its base to its apex. At the top, this mass of timber was nearly two feet in diameter, and lower down a log equally large was bolted to each of the four sides of this central mass. I was so surprised with this waste of timber that I called the attention of my good friend Sakata to the matter, and especially denounced the use of the centre block. To my astonishment he told me that the structure must be strong to support this vast central mass. In my ignorance I replied that the centre part was not supported by the sides, but upon reaching the top I found this monstrous central mass suspended like the clapper of a bell; and when I had descended I could, by lying on the ground, see that there was an inch of space intervening between it and the earth which formed the floor of the pagoda. The pagoda is to a Buddhist temple what a spire is to a Christian church, and by its clever construction it is enabled to retain its vertical position even during the continuance of earthquake shocks, for by the swinging of this vast pendulum the centre of gravity is kept within the base. I now understand the reason for that lavish use of timber which I had so rashly pronounced to be useless, and I see that there is a method in Japanese construction which is worthy of high appreciation. In the absence of any other instance, the employment of this scientific method of keeping the pagoda upright shows how carefully the Japanese have thought out the requirements to be met. — *Dresser's "Japan."*

Proposed Ship Railway in Canada. — Our readers will remember that a commission with the late Hon. John Young as chairman, reported in 1875 adversely to the long projected Baie Verte Canal, across the Isthmus of Chignecto, which separates the Bay of Fundy from Baie Verte, in the Gulf of St. Lawrence, or rather in Northumberland Strait, opposite Prince Edward Island. The estimated cost was $8,000,000, and the time proposed for construction eight years. The annual charge would have been at least $500,000, and on this account chiefly the scheme was finally interred without serious protest from the Maritime Provinces, where influential local jealousy of it, as calculated to divert traffic from existing routes, was known to exist. Last year Mr. H. C. G. Ketchum, a New Brunswick civil engineer, came before the Dominion Parliament with a proposal to substitute a ship railway over the same route, in place of the defunct canal scheme. He obtained a charter for the Chignecto Ship Railway and a subsidy of $150,000 per annum for twenty-five years, when and so long as the railway should be in successful operation. Mr. Ketchum carried the scheme to London, where, after some delay arising out of the effect of the Egyptian question on the financial market, he has succeeded in getting it taken up by an eminent contractor, subject to the favorable report of his own engineer, who is now engaged with Mr. Ketchum in examining the site, ascertaining cost of construction, nature and extent of traffic, etc. If the scheme is carried out, the Dominion will be the first country in the world to possess a ship railway, and probably there is no other country which possesses a site more favorable in its engineering aspects for a perfect railway — that is a ship railway — without curves or grades. — *The Iron Age.*

Improved Papier-Mache Process. — A durable and inexpensive method of employing papier-maché as a substitute for mattings, carpets, oil-cloths and other floor coverings, has been introduced, the simplicity of the process being also an additional advantage in its favor. After the floor has been thoroughly cleaned, the holes and cracks are then filled with paper putty, made by soaking newspaper in a paste made of wheat flour, water and ground alum, that is, to one pound of such flour are added three quarts of water and a tablespoonful of ground alum, these being thoroughly mixed. With this paste the floor is uniformly coated, and upon this a thickness of manilla or hardware-paper is placed, or if two layers are desired, a second covering of paste is spread on the first layer of manilla paper, and then the second thickness of paper is put on, and the whole allowed to become perfectly dry; on this being accomplished another surface of paste is added, succeeded by a layer of wall-paper of any style or pattern desired. On the work becoming entirely dry it is covered with two or more coats of sizing, made by dissolving one-half pound of white glue in two quarts of hot water, and when this has dried, a coat of "hard oil finish varnish," nothing more being required after the latter has had time to become thoroughly dry in every part. — *Providence Journal.*

Reopening a Roman Basilica. — Yesterday being the festival of Pope St. Damasus, solemn high mass was celebrated in the interesting old Church of Sts. Laurence and Damasus — which was rebuilt by Bramante, in connection with the Palace of the Cancelleria, on the site of the primitive Basilica of the sixth century — for the first time since it was closed for restoration in 1868. The celebrant was Cardinal Bilio, and the ceremony was performed with all possible pomp; but the attention of the crowd present was naturally divided between the service, the splendor of the decorations, the new frescoes, by Grandi and Fontana, of the martyrdoms of Pope St. Sixtus II. and of St. Laurence, and the monument to another and a later martyr, Pellegrino Rossi, Pius IX's Minister who was assassinated in November, 1848, on the staircase just opposite the door of the Basilica. There were few, if any, who, on leaving, did not go to look at the spot where he fell. The ceremonies connected with the reopening of the Basilica began on Saturday with the recognition of the relics, which were carried processionally to the high altar and deposited in the place prepared for them; and on Sunday the ceremony of consecrating the altar was performed, Cardinal Bilio also officiating on both these occasions. — *London Times.*

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

[Although a large portion of the building intelligence is provided by their regular correspondents, the editors greatly desire to receive voluntary information, especially from the smaller and outlying towns.]

BUILDING PATENTS.

[Printed specifications of any patents here mentioned, together with full detail illustrations, may be obtained of the Commissioner of Patents, at Washington, for twenty-five cents.]

270,580. IMITATION OF METAL CASTINGS OR CARVINGS. – George B. Dexter, Boston, Mass.

270,602. GAS-TRAP FOR SINKS, URINALS, ETC. — William Moran, Williamsburgh, N. Y.

270,607. SASH-FASTENER. — John O. Reily, Warren Tavern, Pa.

270,608. MANUFACTURE OF CEMENT. — Ludwig Roth, Wetzlar, Prussia, Germany.

270,613. ROCK-DRILL. — Chas. W. Stickney, Washington, D. C.

270,623. FIRE-PROOF CEILING. — Charles J. Bandam, New York, N. Y.

270,635. DOOR. — William S. Castor, Marston, Ill.

270,648. LOCK FOR ELEVATOR-GATES. — John W. Ellwanger and William Eddington, St. Louis, Mo.

270,675. APPARATUS FOR HOISTING AND LAYING STONE. — Griffith Hunter, Chicago, Ill.

270,677. FIRE-PROOF CEILING. — Ernest V. Johnson, Chicago, Ill.

270,698. HEATING-FURNACE. — Jeremiah J. Richardson, Brooklyn, N. Y.

270,704. MOULD FOR MAKING CEMENT-PIPE. — Nathan W. Stowell, Los Angeles, Cal.

270,706. SCHOOL-HOUSE HEATER. — Jacob Voegtle, Indianapolis, Ind.

270,731. AUTOMATIC FIRE-EXTINGUISHER. — Chas. E. Brennan, Charlottesville, Va.

270,741. PIPE-WRENCH. — Friederich Cajar, New York, N. Y.

270,754. WATER-CLOSET BOWL. — John Cropper, New York, N. Y.

270,761. CONSTRUCTION AND VENTILATION OF SANITARY DEVICES, ETC. — Matthew F. Deegan, Chicago, Ill.

270,769. CAVITY-PLANE. — James England, New York, N. Y.

270,801. AUTOMATIC FIRE-EXTINGUISHER. — Chas. L. Horack, Brooklyn, N. Y.

270,819. FAUCET. — Herman H. Liemke, St. Louis, Mo.

270,822. HAND-SAW. — George G. McChesney, Middletown, N. Y.

270,828. DOOR-KNOB. — Gustave Newberg, Chicago, Ill.

270,832. HOT-AIR REGISTER. — Patrick W. Nolan, New York, N. Y.

270,833. STAINING COMPOUND FOR WOOD. — Anthony W. O'Blenus, New York, N. Y.

270,839. DEVICE FOR LATHING. — Stuart Perry, Newport, N. Y.

270,840. SPIKE. — William H. Perry, Sharon, Pa.

270,847. GLASS-CUTTING FRAME. — William R. Rodman, New Burnside, Ill.

270,851. CORNICE. — Samuel R. Scottron, Brooklyn, N. Y.

270,856. HOLLOW AUGER. — William L. Stoddard, Elvaston, Ill.

270,859. ROOF. — Christian Svendsen, Clinton, Io.

270,876. SEWER OR STENCH TRAP. — Lee D. Craig, San Francisco, Cal.

270,880. HINGE. — Samuel D. Halley, St. Louis, Mo.

SUMMARY OF THE WEEK.

Baltimore.

DWELLING. — Messrs. J. A. & W. T. Wilson, architects, are preparing drawings for B. F. Newcomer, Esq., for a residence on the e s of St. Paul St., between Biddle and John Sts. It is to be of brick and stone, 30′ x 88′, and will cost about $40,000; Mr. John Marshall will be the builder.

BUILDING PERMITS. — Since our last report one permit has been granted, which is as follows: —

J. T. Carter, three-st'y brick building, with two-st'y brick back building, e s Central Ave., between Hoffman and Oliver Sts.

Brooklyn.

BUILDING PERMITS. — *Sumpter St., No.* 205, n s, 125′ w Saratoga Ave., two-st'y frame dwell., tin roof; cost, $2,300; owner, Anton Merz, 21 Hall St.; builder, J. Pirring.

Herkimer St., Nos. 578 *and* 582, s s, 265′ and 315′ w Schenectady Ave., 2 two-and-a-half-st'y frame dwells., gravel roofs; cost, about $2,300 each; owner, John McKesson, 91 Fulton St., New York; architect and builder, W. J. Wilson.

Seventeenth St., s s, 120′ e Fifth Ave., 5 two-st'y frame tenements, tin roofs; cost, total, $12,000; owner, Chas. Long, 383 Eleventh St.; builder, J. F. Wood.

Washington Ave., e s, 107′ 7″ s Butler St., three-st'y frame tenement, tin roof; cost, $2,850; owner, Wm. Dale; architects and builders, M. Freeman's Sons.

Magnolia St., s s, 250′ e Irving Ave., three-st'y frame store and tenement, tin roof; cost, $4,000; owner, Anton Vogt, 430 Humboldt St.; builder, J. Dahler.

Myrtle Ave., n s, 63′ w Cedar St., three-st'y frame store and tenement, tin roof; cost, $3,000; owner and builder, H. C. Bauer, 721 Bushwick Ave.

Vernon Ave., n s, 30′ w Tompkins Ave., 4 three-st'y frame dwells., tin roofs; cost, each, $3,500; owner, Anna A. Fardon, 119 Carlton Ave.; architect and builder, A. A. Fardon.

Bedford Ave., n w cor. Park Ave., 6 three-st'y frame dwells., gravel roofs; cost, each, $7,500; owner and architect, J. G. Glover, 219 Montague St.

Chauncey St., Nos. 140 *and* 142, s s, 200′ e Reid Ave., 3 two-st'y frame dwells., tin roofs; cost, each, $2,500; owners and builders, Adams & Donaldson, 85 Macon St. and 2214 Fulton St.; architect, T. Donaldson.

Willoughby Ave., n w cor. Sanford St., three-st'y brick mill, gravel roof; cost, $12,000; owners, White, Potter & Paige M'f'g. Co., 415 Willoughby Ave.; architect, M. J. Morrill.

Boston.

HOUSE. — A dwelling, near the corner of Fairfield St. and Commonwealth Ave., is now in progress. It is of brick and stone, five-st'y, 21′ x 82′; Mr. George Wheatland is the owner; Vinal & Dodge and Lanning & Drisco, the contractors; and Mr. O. F. Smith, of Boston, the architect.

BUILDING PERMITS. — *Brick.* — No permits have been issued for brick buildings since the last report.

Wood. — *Harvard St.*, near Wales St., Ward 24, for Samuel B. Faulkner, two-st'y pitch dwell., 20′ and 21′ 6″ x 30′; Samuel B. Faulkner, builder.

Unnamed St., from Tremont Court, Ward 24, for Byron A. Atkinson, 2 one-st'y and mansard dwells., 19′ 6″ x 28′; and 3 one-st'y and mansard dwells., 20′ 2″ x 28′; Freman Hopkins, builder.

Centre St., near Dorchester Ave., Ward 24, for Ira A. Medbury, two-st'y pitch dwell., 32′ x 44′; Ira A. Medbury, builder.

East Fourth St., near I St., Ward 14, for James E Rowe, 2 one-st'y mansard dwells., 20′ x 33′; Henry Keyes, builder.

Harvard St., s s, Ward 24, for Cheever Newhall, 2 two-st'y and pitch dwells., 20′ and 21′ 6″ x 30′; Chas. E. Currier, builder.

Walnut Ave., near Dale St., Ward 21, for Wm. Donaldson, 2 two-st'y pitch dwells., 20′ x 30′; ell, 15′ x 15′; Wm. Donaldson, builder.

Ray St., near Hulburt St., Ward 21, for John B. Mulvey, 2 three-st'y flat dwells., 15′ and 20′ x 41′; John B. Mulvey, builder.

Sheridan Ave., near Chestnut Ave., Ward 23, for Mrs. Victoria Sammet, two-st'y pitch dwell., 26′ and 30′ x 48′; James Simpson, builder.

Medford St., Nos. 507 *and* 509, Ward 4, for Page & Littlefield, one-st'y flat storage, 20′ and 35′ x 64′.

Chelsea St., Nos. 315-321, Ward 1, for Andrew B. Porter, three-st'y pitch currying-shop, 50′ x 75′.

Halleck St., near Prentiss St., Ward 22, for Geo. F. Burkhardt, one-st'y flat wagon-house, 37′ x 58′.

Commercial St., near Shamrock St., Ward 24, for McNeil Bros., two-st'y flat storage of lumber, 23′ x 43′ x 62′ 6″; McNeil Bros., builders.

Chicago.

BUILDING PERMITS. — P. J. Ryan, two-st'y and basement brick dwell., 21′ x 38′, 153 South Sangamon St.; cost, $5,500.

Frank Nowak, two-st'y and basement brick flats, 21′ x 44′, 118 Farquar St., cost, $3,000.

M. McCarthy, two-st'y brick flats, 22′ x 54′, 3801 Butterfield St.; cost, $2,200.

J. J. Powers, one-st'y basement, 21′ x 45′, 3218 Butterfield St.; cost, $1,100.

Wm. Mara, three-st'y brick flats, 50′ x 55′, Winchester Ave. and Van Buren St.; cost, $10,000.

T. C. Goudie, two-st'y brick flats, 21′ x 42′, Superior St., near Rockwell St.; cost, $2,500.

Wm. Rebner, one-st'y brick store, 20′ x 50′, 486 Lincoln St.; cost, $1,500.

F. Hemberg, one-st'y brick store, 20′ x 50′, 28 Rees St.; cost, $1,000.

Albert Crane, one-st'y brick cottage, 20′ x 32′, Emerald Ave., near Thirty-first St.; cost, $1,000.

Cincinnati.

STORE. — Mr. David Sinton is to build a new store on Fourth St., between Vine and Race Sts. The lot is 47′ on Fourth St., and 100′ deep. The building will be five-st'y, and will be used for stores and offices; Mr. Jas. W. McLaughlin, architect.

BUILDING PERMITS. — The following building permits have been issued since our last report: —

Mrs. E. N. Rule, three-st'y brick, corner of Fifth St. and Broadway; cost, $5,000.

B. N. Gerleman, three st'y brick dwell., Elizabeth St., near John St.; cost, $4,500.

Frank Werner, three-st'y brick dwell., Harrison Pike; cost, $4,000.

Thos. Emery's Sons, eight-st'y stone-front building for banking and office purposes, Fourth St., near Walnut St.; cost not stated, but supposed $100,000; Samuel Hannaford, architect.

S. L. Wilder, four-st'y brick store, Sixth St., near Elm St.; cost, $4,000.

Benj. Kuhlman, three-st'y brick dwell., Ohio Ave.; cost, $8,000.

Four permits for repairs; cost, $2,000.

Louisville, Ky.

BUILDING PERMITS. — Very few building permits have been issued since last report. Those of $2,000 and over are as follows: —

J. H. Post, brick dwell.; cost, $2,000.

Mrs. M. A. Matlack, frame dwell.; cost, $2,200.

R. Burke, brick dwell.; cost, $2,500.

M. A. Irving, brick dwell.; cost, $4,500; M. I. Wilson, architect.

Mrs. Mary Pulliam, brick dwell.; cost, $5,700.

Chestnut St. Baptist Church, brick church; cost, $60,000; H. Wolters, architect.

Jno. G. Barrett, brick store; cost, $18,000; C. A. Curtin, architect.

Minneapolis, Minn.

HOTEL. — The contracts were let on Wednesday last for the stone-work in the West hotel, and for much other work.

TENEMENT-HOUSES. — Orff Bros. are preparing the plans for a three-st'y brick and stone tenement, to contain four houses, which C. B. Moses will build on the corner of Hawthorne Ave. and Fifteenth St.

HOUSES. — H. G. Sidle and family have vacated their Hennepin Ave. residence to make way for Mr. Sidle's new block.

Mr. J. W. Erwin, of Richfield, is to build a $7,000 house after plans by Kees & Fisk.

The house in process of erection for Gen. Rosser is to be duplicated in Atlanta, Ga., and the plans are being traced by Kees & Fisk.

New York.

CATHEDRAL. — It is stated that the great Roman Catholic Cathedral (St. Patrick's) in Fifth Ave. is to be completed speedily, and that some arrangement to that end has been made, whether through a subscription or by money advanced for the purpose, is not related.

HOSPITAL. — The Italian Benevolent Society has decided to erect a hospital, not a monument, to the honor of Garibaldi.

OFFICE-BUILDING. — For the Commercial Union Assurance Co., of London, a first-class six-st'y office building of irregular dimensions, averaging about 20′ x 78′; is to be built on the n e cor. of Pine and Williams Sts., from designs of Mr. Geo. E. Harney. The front will be of stone in the basement and first-st'y, and above will be brick with stone finish, and probably a light introduction of terra-cotta will be used. The building will contain all the modern improvements, and will cost at least $80,000.

BANK. — For the Mount Morris Bank, a building is to be erected on the n w cor. of Fourth Ave. and One Hundred and Twenty-fifth St., from designs of Messrs Lamb & Rich. The front is to be of brick and red stone. The cellar is to be used for vaults; the basement by a Safe Deposit Co.; the first floor for bank purposes, and the upper stories for apartments.

STABLE. — A stable 70′ x 100′ is to be erected on the north side of Seventy-fifth St., 80′ w of Lexington Ave., for Mr. Thomas Patten from designs of Mr. George Martin Huss. It is to be four stories, of brick with terra cotta finish. The basement will be utilized for a riding ring; the first floor will contain offices, a ladies' reception-room, and storage for carriages; the second floor will accommodate seventy-seven horses.

CLUB-HOUSE. — The "Progress" Club is to have a picturesque club-house, in the Moorish style of architecture, erected on Fifty-ninth St., bet. Fourth and Lexington Aves. It is to be 50′ x 100′, three stories high and fire-proof throughout. The front will be brick and terra-cotta, with colonnettes and spandrels of bronze. The ball-room is to be decorated in the Moorish style. The cost will be about $80,000.

BUILDING PERMITS. — *Ave. A, Nos.* 169 *and* 171, 2 five-st'y brick tenements and stores, tin roofs, cost, each, $14,000; owner, Louis P. Rollwagen, 49 Seventieth St.; architect, Wm. Jose.

Eighty-eighth St., n s, 235′ 6″ e Fourth Ave., 2 five-st'y brick tenements, tin roofs; cost, each, $15,000; owner, Honora Byrne, 128 East Ninetieth St.; architect, John McIntyre; builder, —— Byrne.

One Hundred and Eighth St., n s, 150′ w Second Ave., 12 four-st'y brownstone front tenements, tin roofs; owner, Jacob L. Maschke, 192 Division St.; architect, John C. Burne; builder, not selected.

Franklin St., Nos. 9 *and* 11, six-st'y brick store, tin roof; cost, $45,000; owner, Morris S. Herrmann, One Hundred and Fifteenth St., near Fifth Ave.; architect, Geo. W. Da Cunha.

Marion Ave., w s, 500′ n Kingsbridge Road, 2 two-st'y frame dwells., tin roofs; cost, each, $2,000; owner, Annie Arctander, Willis Ave., near One Hundred and Forty-sixth St.; architect, Arthur Arctander.

Eighth Ave., s e cor. One Hundred and Forty-third St., 3 four-st'y brick tenements and stores, tin roofs, cost, two, each, $10,000, one $8,000; owner and builder, Patrick Whelan, One Hundred and Thirty-eighth St., near Southern Boulevard; architect, Geo. S. Ferris.

West Fortieth St., No. 237, five-st'y brick tenement and store, tin roof; cost, $16,000; owners, L. & K. Ungrich, 160 West Thirty-third St.; architect, M. L. Ungrich.

One Hundred and Forty-third St., n s, 425′ e Willis Ave., 8 two-st'y and basement frame dwells., tin roofs; cost, each, $2,200; owner, Chas. Van Riper, 683 East One Hundred and Forty-third St.; architect, H. S. Baker.

One Hundred and Forty-fourth St., n s, 38′ 6″ e College Ave., 2 two-st'y frame dwells., gravel roofs; cost, each, $2,000; owner, Anna La Cost, One Hundred and Forty-fourth St., cor. College Ave.; architect, H. S. Baker; mason, C. S. La Cost.

One Hundred and Forty-third St., s s, 175′ w Eighth Ave., two-st'y frame dwell., tin roof; cost, $3,000; owner, Wm. Naegele, 2392 Fourth Ave.

One Hundred and Forty fourth St., s s, 130′ e Third Ave., four-st'y frame tenement, tin roof; cost, $6,000; owner, Mrs. Caroline Tegtmeyer, One Hundred and Forty-sixth St., between Willis and Brooks Aves.; builders, John C. Stichler and John Freese.

Forty-eighth St., n s, 100′ w Tenth Ave., 14 five-st'y brownstone front tenements, tin roofs; cost, each, $20,000; owner, Chas. Riley, 1435 Lexington Ave.; architect, John C. Burne; builder, not selected.

Forty-ninth St., n s, 100′ w Tenth Ave., 10 five-st'y brownstone front tenements; tin roofs; owner, Wm. Rankin, 306 West Forty-seventh St.; architect, C. F. Ridder, Jr.; builder, not selected.

West Fifty-first St., No .554, five-st'y brick tenement, tin roof; cost, $10,000; owner, Katharina Dettling, 555 West Fifty-first St.; architect, C. F. Ridder, Jr.; builder, not selected.

Brook Ave., n e cor. One Hundred and Forty-fourth St., three-st'y frame tenement, tin roof; cost, $5,000; owner, John O'Harran, One Hundred and Forty-fourth St., e of Brook Ave.; architect, J. H. Burrows.

First Ave., No. 436, three-st'y brick factory, gravel roof, cost, $5,800; owner, Carl H. Schultz, One Hundred and Fortieth St., w of Boulevard; architect, Ed. E. Raht; masons, R. L. Darragh & Co.; carpenter, not selected.

ALTERATIONS. — *Broadway, No.* 53, raise one-st'y and internal alterations; cost, $30,000; owners, R. & O. Goelet; architect, Jos. M. Dunn. To be done by day's work.

Grand St., Nos. 85 *and* 87, five-st'y brick and iron extension, tin roof; cost, $30,000; owner, Joseph

Fisher; architect, Wm. H. Hume, s w cor. Fifth Ave. and Fourteenth St.; builder, not selected.

Tenth Ave., No. 723, internal alterations and new store front; cost, $2,500; owner, D. Knickmann, 318 West Fifty-eighth St.; architects, A. Pfund & Son.

First Ave., No. 434, new walls; cost, $2,500; owner, Carl H. Schultz, One Hundred and Fortieth St., near Boulevard; architect, Ed. E. Raht; masons, Robert L. Darragh & Co.

Madison Ave., No. 341, raise one-st'y and additional support in first-st'y front; cost, $5,000; owner, Charles A. Dards, on premises; architect, J. E. Terhune.

Philadelphia.

BUILDING PERMITS. — The past week has been almost void as to the issuing of permits, consisting of a few alterations and additions, with the following buildings: —

Ward St., No. 1328, 3 two-st'y dwells., 16′ x 30′; Daniel Carlin, contractor.

Oxford St., n e cor. Mervin St., one-st'y building, 12′ x 57′; Chas. Wolter, owner.

Portland, Oregon.

Plans are now being prepared for a number of large business blocks which will be commenced in a few months' time.

It is expected more buildings will be put up this year than during any past year.

STORES. — H. H. Northrup has just started to build a two-st'y brick building for business purposes, 50′ front, by 80′ deep; Scharno & Davidson, contractors; J. Krumbein, architect; cost, $10,000.

TENEMENT-HOUSES. — Henry Fleckenstein, Esq., is having plans prepared for four two-st'y tenements, 100′ frontage; cost, total, about $14,000; J. Krumbein, architect.

HOUSE. — Mr. Gundolph has had plans drawn for a two-st'y residence; cost, $18,000.

STORES AND THEATRE. — W. H. Williams, architect, is preparing plans for a three-st'y brick building, 100′ x 100′; the lower part will be fitted up for stores, and the upper part for a variety theatre; cost, $5?,000; its construction will be commenced March 1st.

HOUSE. — Mr. Williams has also prepared plans for a residence and stable for R. Knapp, Esq.; cost of residence, $40,000; stable, $10,000.

Following is a list of architects doing business in Portland: W. A. Williams, Charles Talbot, Joseph Sherwin, W. Stokes, Burton & McCaw, Justus Krumbein and Neer & La Roner.

The indications at present are that an unusual amount of building will be done throughout Oregon the present year.

St. Louis.

BUILDING PERMITS. — Sixteen permits have been issued since our last report, of which eight are for unimportant frame houses. Of the rest those worth $2,500 are as follows: —

Jas. A. Quirk, 2 two-st'y brick dwells.; cost, $8,500; Thos. Gugerty, contractor.

D'tto Jas. A. Quirk, two-st'y brick dwell.; cost, $6,500; Thos. Gugerty, contractor.

P. H. Tobin, two-st'y brick dwell.; cost, $6,000; G. E. Miller, contractor.

Bids and Contracts.

ALBANY, N. Y. — The following is a synopsis of bids received at this office under advertisement dated December 14, 1882, for glass for the custom-house, etc., at Albany, N. Y.: De Pauw's American Plate Glass Works, $2,975; Edward A. Boyd & Sons, $3,006; William Glenny & Co., $3,260; London & Manchester Plate Glass Company, $3,281.50; Heroy & Marrenner, $3,342; D. H. Fonda & Co., $3,4?7; Semon, Bache & Co., $3,593.50; Halbrook Brothers, $3,688.95; William Dey, Ermond & Co., $3,713.73. The bid of De Pauw's American Plate Glass Works has been accepted.

PHILADELPHIA, PA. — The following is a synopsis of bids received for iron stairways for the post-office and court-house at Philadelphia, Pa.; C. Hitzeroth, $2,525; Bartlett, Hayward & Co., $4,350; Snead & Co., $4,473; R. Tippetts & Sons, $4,900; Phœnix Iron Company, $5,197; Haugh, Ketcham & Co., $5,904.94; W. Bugbee Smith, $6,250; S. J. Creswell, $7,200; Cheney & Hewlett, $8,169. The bid of C. Hitzeroth, the lowest, has been accepted.

General Notes.

BRATTLEBORO, VT. — The committee on competitive designs for the proposed new school-house have selected that of George A. Hines, architect, of Brattleboro. The building is to be of brick, two-st'y, with mansard roof; to accommodate six hundred scholars, and to cost not more than $40,000.

BROOKLINE, MASS.—The Brookline alms-house which is now under contract, will be a frame building measuring 31′ x 72′, with wing, 20′ x 22′; there will be a basement and two finished stories, with an unfinished attic in the pitch roof; Mr. O. F. Smith, of Boston, is the architect.

BUFFALO, N. Y. — The following list of buildings have either been lately completed or are in process of construction: —

Four-st'y brick block with sandstone trimmings, stores and flats, cor. of Niagara and Pennsylvania Sts.; owner, F. W. Ames; cost, $30,000.

Brick malt-house on Morgan St; owner, Moffat & Co.; cost, $18,000.

Roundhouse for Lackawanna R. R., at East Buffalo; cost, $24,000.

Car-shops for Lackawanna R. R., at East Buffalo; cost, $25,000.

Brick warehouse for W. H. Glenny & Co., Pearl St.; cost, $15,000.

Additions to car-shops, N. Y. C. R. R.; cost, $5,000.

Iron-works, Perry St.; owner, W. H. Harris; cost, $20,000.

CHATTANOOGA, TENN. — Three-st'y brick building, 25′ x 113′, for Temple & Shipp; cost, $7,000; I. E. Burdick, architect.

Three-st'y brick building, 28′ x 200′, for Dietzen Bros.; cost, $10,000; I. E. Burdick, architect.

Brick dwell. for I. L. Crandall; cost, $4,500; I. E. Burdick, architect.

Brick dwell. for Dr. Baxter; cost, $5,000; I. E. Burdick, architect.

Frame dwell. for W. W. Yonge; cost, $3,000; I. E. Burdick, architect.

DUBUQUE, IO. — W. H. Peabody, Esq., is preparing to build a block of three residences, each two-st'y and basement, brick, 32′ x 18′ 8″, on Locust St., near Seventh St.; cost, about $5,500.

Plans are being made for a two-st'y frame cottage, 20′ x 46′, for E. J. Reischards, Esq., to be built on Fifth-Street Hill, at a cost of about $2,000.

W. H. Day, Esq., is having plans prepared for a two-st'y frame "Queen Anne" cottage, to be built on Grove St., at a cost of about $10,000.

F. D. Hyde is the architect of each of these.

PROPOSALS.

SCHOOL-HOUSES. [At Philadelphia, Pa.]

Sealed proposals, indorsed "Proposals for building Public School-Houses, viz.: on the north side of Spring Garden Street, below Seventeenth, and at Olney, in the Twenty-second Ward," will be received by the Committee on Property of the Board of Public Education, in Select Council Chamber, Chestnut St., above Fifth, **on Thursday, February 1, 1883, at 2 o'clock,** P. M., for the erection of public school-houses on lots of ground situate on the north side of Spring Garden St., below Seventeenth, and at Olney, in the Twenty-second Ward, at which time said proposals will be opened by the Committee on Property.

Said school-houses to be built in accordance with the plans and specifications of L. H. Esler, Architect and Superintendent of School Buildings, to be seen at the office of the Board of Public Education, No. 713 Filbert St.

No bids will be considered unless accompanied by a certificate from the City Solicitor that the provisions of an ordinance approved May 25, 1860, have been complied with.

The committee reserve the right to reject any or all bids not deemed satisfactory.

By order of the Committee on Property.

H. W. HALLIWELL,
370 Secretary.

COURT-HOUSE. [At Jacksonville, Fla.]

Sealed bids will be received by the County Commissioners of Duval County, Florida, for furnishing the material and laying the foundations for County Court-House **until February 1, 1883,** the County Commissioners reserving the right to reject any or all bids.

Adequate security, over and above all homestead exemptions, with names of proposed securities to the amount of the bid, will be required.

Plans and specifications and form of bid can be seen at the office of Ellis & McClure, architects.

Bids, properly indorsed, to be handed to the County Clerk on or before the above date.

By order of the Board of County Commissioners.

T. E. BUCKMAN,
370 County Clerk, etc.

FURNITURE. [At New York, N. Y., and Danville, Va.]

OFFICE OF THE SECRETARY,
TREASURY DEPARTMENT,
WASHINGTON, D. C., January 12, 1883.

Sealed proposals will be received at this office **until 1 o'clock,** P. M., **of Saturday, February 3, 1883,** for manufacturing, delivering, and placing in position, in complete working order, certain furniture for the United States Barge Office at New York, N. Y., and United States Court-House and Post-Office at Danville, Va.

Upon application to this office detailed information will be furnished to furniture manufacturers desiring to submit proposals.

The Department reserves the right to reject any or all bids, or parts of any bid, and to waive defects.

WM. F. FOLGER,
370 Secretary.

WATER-WORKS. [At Durango, Col.]

DURANGO, COL., December 28, 1882.

Sealed proposals for constructing water-works at this town will be received **until 12 M., February 1, 1883.** Proposals will be for two systems of water-works; gravity and turbine wheel with reservoir.

Specifications and details at office of City Engineer, Durango, Col.

The right to reject any and all bids is reserved by the town of Durango.

By order of the Board of Trustees.

370 F. W. BARNES, Clerk.

IRON BRIDGE. [At Nashua, N. H.]

CITY CLERK'S OFFICE, NASHUA, N. H.

The committee on highways and bridges of the city of Nashua invite proposals for a new iron bridge across the Nashua River, on Canal St. The span is about 152′; a contemplated roadway of 22′, with sidewalks on both sides of the structure.

Committee reserve right to reject all bids. Proposals will be received **until February 1, 1883,** and shou'd be addressed to

370 A. M. NORTON, Mayor.

HARDWARE. [At St. Louis, Mo.]

OFFICE OF SUPERVISING ARCHITECT,
TREASURY DEPARTMENT,
WASHINGTON, D. C., January 11, 1883.

Sealed proposals will be received at this office **until 12 M. on the 3d day of February, 1883,** for furnishing and delivering at the Treasury Building, Washington, D. C., all the hardware required for the custom-house and post-office at St. Louis, Mo., in accordance with specification and schedule, copies of which and any additional information may be had on application at this office or the office of the superintendent.

JAS. G. HILL,
370 Supervising Architect.

PROPOSALS.

BRIDGE MASONRY. [At La Passe, Can.]

Tenders will be received **up to the 8th of February next,** for the putting in the foundations and building the masonry for a bridge over the Ottawa River at La Passe; also, for the iron superstructure of same, erected complete to receive the track.

Plans and specifications may be seen on and after the 16th January next, at the contractor's office, No. 7 Place d'Armes Hill, Montreal.

C. N. ARMSTRONG,
370 Contractor.

POST-OFFICE FITTINGS. [At Belleville, Ont.]

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, January 9, 1883.

Sealed tenders, addressed to the undersigned, and indorsed "Tender for Fittings," will be received at this office **until Tuesday, the 6th day of February next,** for the new fittings required in the post-office, Belleville, Ont.

Plans and specifications can be seen and all necessary information obtained at the custom-house, Belleville, and at the Department of Public Works, Ottawa, on and after Tuesday, the 16th day of January.

Tenders must be made on the printed forms supplied.

Each tender must be accompanied by an accepted bank check, made payable to the order of the Hon. the Minister of Public Works, equal to five per cent of the amount of the tender, which will be forfeited if the party decline to enter into a contract when called on to do so, or if he fail to complete the work contracted for. If the tender be not accepted, the check will be returned.

The Department will not be bound to accept the lowest or any tender.

By order,

F. H. ENNIS,
371 Secretary.

LOCK. [On the Great Kanawha River, W. Va.]

U. S. ENGINEER OFFICE,
CHARLESTON, KANAWHA CO., W. VA.,
December, 10, 1882.

Proposals for building lock No. 2, of the Great Kanawha River, will be received **until noon of January 31, 1883,** and opened immediately thereafter.

Blank forms and specifications can be had upon application at this office.

E. H. RUFFNER,
370 Captain of Engineers.

DIKE. [At New Haven Harbor, Conn.]

U. S. ENGINEER OFFICE,
NEW LONDON, CONN., Dec. 23, 1882.

Sealed proposals, in triplicate, will be received at this office **until 11 o'clock** A. M. **on the 23d day of January, 1883,** for constructing a dike in New Haven Harbor, Conn., to be built partly of rip-rap stone, partly of piles and stone.

Specifications and blank forms for proposals and for guaranty will be sent on application to this office.

J. W. BARLOW,
370 Major of Engineers.

IRON CHAINS. [Near Pittsburgh, Pa.]

U. S. ENGINEER OFFICE, 82 WEST THIRD ST.,
CINCINNATI, O., January 8, 1883.

Sealed proposals, in duplicate, will be received at this office **until 12 o'clock, noon, on Friday, the 16th day of February, 1883,** for furnishing and delivering at Davis Island Dam, on the Ohio River, five miles below Pittsburgh, Pa., about twenty-five thousand pounds of half-inch iron chains of the best quality. Specifications and all necessary information may be obtained on application to the undersigned or to Capt. F. A. Mahan, Corps of Engineers, P. O. Box 70, Pittsburgh, Pa.

WM. E. MERRILL,
371 Major of Engineers.

COURT-HOUSE. [At Caledonia, Minn.]

Sealed proposals will be received by the building committee of the County Commissioners of Houston County, Minnesota, **until March 21, 1883,** at the office of the Auditor, in Caledonia, for the construction of a stone court-house for said county, according to plans and specifications of same now on file at the Auditor's office, and at the office of the architects, C. G. Maybury & Son, Winona, Minn., who will give any further information desired.

No bids will be received except for the whole building complete as specified.

The successful bidder will be required to give bonds in the sum of $5,000.

The right to reject any and all bids is reserved.

By order of Building Committee.

372 E. K. BOVERUD, County Auditor.

SCHOOL-HOUSE. [At Home City, O.]

Sealed proposals will be received by the Board of Education of the Delhi Station School District No. 6, **until Monday, February 5, 12 o'clock,** M., for the materials and labor required for building an eight-room school-house in Home City, Hamilton County, O., according to plans and specifications on file at the office of S. Hannaford, architect, Room 18, Palace Hotel Building, Cincinnati, and at the office of Dr. John Campbell, Home City.

Bids must be on blank forms, to be obtained at either office.

Each bid must contain the name of every person interested therein, accompanied by a sufficient guaranty by some disinterested person in a penalty equal to the amount of the bid, that if the bid is accepted the contract will be entered into, and the performance of it properly secured.

All bids must be addressed to R. H. Gibson, Clerk of the Board, at Delhi, O., or 174 Elm St., Cincinnati, O.

The right is reserved to reject any or all bids.

By order of the Board of Education.

370 R. H. GIBSON, Clerk.